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The Role of Trust Perceptions and Propensity to Trust in Applicants' Experience of Recruitment and Selection

Volker Patent

BSc (Hons), MSc

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Department of Psychology, Faculty of Social Sciences,

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Abstract

The role of organisational trustworthiness, propensity to trust and distrust was examined in the context of recruitment and selection. Specifically this research aimed to explore applicant experiences of selection as a context for trust. Because there has previously been little work looking systematically at the factorial and construct validity of propensity to trust this study also analysed responses to nine previously published propensity-to-trust scales using a combination of factor analytic, regression and content analyses. Findings supported the idea that propensity to trust scales are multidimensional and reflect aspects of both personality and experience of different trust contexts. The implication of this is that while use of propensity to trust is theoretically justified, checks on dimensionality should be carried out to account for different facets of this construct. The second study used the NEO propensity to trust scale (Costa & McCrae, 1985) as part of a survey looking into research degree applicant's experience of the recruitment and selection process during the post application and post interview stage. In addition to propensity to trust and propensity to distrust playing different role during attraction, influencing the decision of applicants to pursue a vacancy, propensity to distrust also appeared to regulate the relationship between selection justice, organisational trustworthiness and outcome intentions. Evidence from template analysis suggested ways in which justice and trust are manifested during the selection process, but based on a triangulated view, questions about what or whom applicants trust may need further examination and consideration in future research.

Statement and declaration

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Chapter 1 - Introduction and overview

*The employer generally gets the
employees he deserves.*
J. Paul Getty

1.1 Introduction

The layperson's view of organisational trust in recent years has been largely shaped by negative media attention on macro-economic and political crises, evidence of organisational malpractice, unethical behaviour and negligence. These have placed trust in the public spotlight (Bachmann, Gillespie, & Kramer, 2012; Knell & Stix, 2010; Stevenson & Wolfers, 2011). Breaches in trust are manifest in many areas of organisational life including recruitment and selection which are the focus for this thesis. Data protection, discrimination and nepotism are only just some of the contexts in which recruitment and selection are impacted by trust, with implications for attracting and recruiting staff.

Fundamentally trust is about risk and often becomes an issue only when there has been a problem (Möllering, Bachmann, & Lee, 2004). Trust is an 'elusive notion' (Gambetta, 1988) and a 'slippery concept' (Nooteboom, 2000) that is difficult to pin down in a single definition. Nevertheless, the notion that trust is a type of social glue that is important for cooperation and organisation (Govier, 1997, p. 31) is now widely accepted.

This chapter is organised into three sections. First I provide a brief outline of the relevant literature that positions this work within the existing research context. The literature referred to in this chapter serves to provide a general outline of research, which is then discussed more fully in chapter 2. Next, I outline the research questions that

emerge from a consideration of trust in the selection/recruitment context. Finally, I provide a road map to the structure of the remainder of the thesis.

1.2 A brief outline of the literature

The focus for this thesis is *organisational* trust, the trust experienced by an employee about an organisation, rather than interpersonal trust, between two individuals. The reason for this focus is that previous work has attended more to trust at a dyadic level, and less attention has been paid to organisational trust. In selection contexts there has been very little work on applicants' trust in the first instance and even less on their organisational trust. However, it is not always clear which form of trust, interpersonal or organisational, are involved in a situation, and many situations involve elements of both (Dietz, 2011). Nuanced views of organisational trust, for example employee trust (cf. Searle, Weibel, & Den Hartog, 2011) distinguish trust between employees and other organisational members (e.g. supervisor) and trust of an employee in organisational entities (e.g. management). In this thesis therefore the term trust will be qualified carefully to denote when it refers to organisational trust (trust in the institution or organisation and its systems), and when it refers to interpersonal aspects (interpersonal trust) so as to avoid confounding the two.

Both initial and ongoing reviews of the literature (see chapter 2) highlighted an academic field that was historically fragmented at a theoretical and conceptual level. Owing to efforts by various trust researchers to provide theoretical and definitional integration (Kramer, 1999; Mayer, Davis, & Schoorman, 1995; Schoorman, Mayer & Davis, 2007) there has been a growing consensus on many aspects of organisational and interpersonal trust. Examples of this can be found in the disentanglement of trust as a relational quality (e.g. reciprocity, exchange) from trust as a personality variable

(propensity to trust), trust as an expectation and a perception (e.g. trustworthiness perceptions), and definition of trust as a willingness to be vulnerable (discussed more fully in chapter 2).

In parallel with developments in other applied areas of trust research in recent years there has been a growing interest in trust within human resources (HR) processes (Searle & Skinner, 2011a; Tzafrir, Baruch, & Dolan, 2004). This provides an interesting context in which to examine organisational trust. Human resources processes mark transitions in an employee's engagement with an organisation, ranging from entry to exit. These include exposure to an organisation's practices and policies throughout the duration of the employment contract. Issues of employee trust surface because of the specific patterns of interactions and exchanges that occur between employees and the processes that are prevalent in their organisations (Searle & Skinner, 2011b, pp. 4-8).

This thesis is concerned with trust at the pre-entry stage, during recruitment and selection. To date little research has been undertaken regarding trust within the contexts defined by recruitment and selection policies.

The idea that applicants' experience of selection matters in terms of the outcomes of recruitment and selection processes and of their subsequent relationship with a prospective employer has become increasingly important over the last twenty years (Hausknecht, 2013; Hausknecht, 2004). Previous work on applicant reactions has been dominated by research on justice. Trust had featured little in the selection literature until the late 2000s when interest in the links between trust and recruitment/selection became discernible as a niche area of trust research (Searle & Billsberry, 2008; Celani, Deutsch-Salamon, & Singh, 2008; Klotz, Motta Veiga, Buckley, & Gavin, 2013; Searle & Billsberry, 2011). Previous justice research, made links between trust and justice, but the way trust

and justice were viewed together appears inconsistent and problematic at a theoretical and conceptual level (Colquitt & Mueller, 2008; for discussion see chapter 2), leading to renewed interest in empirical investigation of trust and Justice (Colquitt, Lepine, Piccolo, Zapata, & Rich, 2012; Colquitt & Rodell, 2011; Colquitt et al., 2013).

The theoretical and applied developments summarised above highlight the need for further exploration of the role of organisational trust during the recruitment and selection process. A strong case for investigating trust in this context is that exploring the relationships between these variables can help gain a better understanding of the 'psychological mechanisms underlying the course of a selection process' (e.g. Celani et al., 2008, p. 70) but also to provide clarification of the ways in which justice and trust operate in dynamic processes. In order to provide continuity with theoretical developments in the existing fields, and to address inconsistencies in the literature, specific attention is placed on propensity to trust, multidimensional aspects of trust concepts such as trust and distrust, and the role of trust perceptions in the relationship with justice and recruitment/selection outcomes. An in-depth literature review of theory on trust and recruitment and selection is found in chapter 2, as is further discussion of the issues and the rationale referred to above. This provides the departure points for empirical work (chapters 4, 5, 6, 7, 8 and 9) which addresses issues of measurement and conceptualisation of propensity to trust, as well as the experience of applicants during a live selection process.

A summary of the research question(s) will be provided next.

1.3 Research questions

The overarching aim of the thesis is to answer the question:

'What is the role of organisational trust in recruitment and selection?'

The review of the literature highlighted a number of variables important to answering this question, namely propensity to trust, trustworthiness and selection justice. Furthermore, consideration of trust in recruitment and selection can move in two directions: from employer to applicant and from applicant to employer. The types of trust in each case are different. The former involves the trust of organisational representatives of the applicant, and the latter involves both the trust between the applicant of the recruitment personnel as well as trust in the organisational systems and organisation as a whole. In this thesis the emphasis is primarily on applicants' trust in the organisation. This is looked at in the context of their experience of recruitment and selection. A number of subsidiary questions regarding some of the constructs also needed to be addressed to provide a more qualified answer to the main research question. Methodologically an abundance of selection and trust research is situated in an objectivist/quantitative survey paradigm. This raised questions of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and these form the basis for methodologically derived questions that are part of the research questions operating within this thesis. In the remainder of this section I outline the different secondary research questions that were addressed in order to achieve the central aim of identifying and understanding the role organisational trust plays in recruitment and selection.

1.3.1 Research questions relating to propensity to trust

Propensity to trust is a personality variable that is important to models of organisational trust as an antecedent within the trust process (Mayer et al., 1995) that influences individuals' willingness to render themselves vulnerable. Furthermore, propensity to trust has been shown to have a role in mediating and moderating the effect of other variables used in the present study, for example justice (e.g. Colquitt, Scott, Judge, & Shaw, 2006). Problems of measuring trust that have been identified empirically

for measures of organisational trustworthiness (Dietz & Den Hartog, 2006) have not previously been investigated for propensity to trust and there is a clear gap in the literature for a systematic and empirical review in this area. The review carried out for this research (chapter 2 and chapter 4) found theoretical and practical inconsistencies in the measurement of propensity to trust that raised questions about its dimensionality. Propensity to trust is important as a potential moderator or mediator variable in the present research, and the key questions regarding this construct therefore relate to the quality and characteristics of propensity-to-trust measures:

- A1. What dimensions are found in existing measures of propensity to trust?
- A2. How consistent are these dimensions across different scales?
- A3. How are dimensions of propensity to trust related to different factors of personality?
- A4. What are the implications of scale content to interpreting data produced with different propensity-to-trust scales or items?
- A5. Are there any measures of propensity to trust that are more suitable for this research than others in terms of their validity, scope and other characteristics?

In order to address the lack of empirical work on measurement of propensity to trust, and to address the research questions, three pieces of work were conducted: First, a critical review and content analysis of scales for propensity to trust (Chapter 4). Secondly exploratory and confirmatory Factor analyses were used to analyse dimensionality of scales identified in the critical review (Chapter 5), and finally content analysis using a card-sort and rating exercise was conducted to explore content and face validity of the dimensions identified in the factor analytic study (Chapter 6).

1.3.2 Research questions relating to selection justice and trust

Previous research has highlighted the role of justice perception in recruitment and selection as an important contributor to attraction and other recruitment outcomes (for reviews please refer to Maertz et al., 2004; Uggerslev, Fassina, & Kraichy, 2012). When taking the applicant perspective into account, understanding the role of organisational trust in recruitment and selection requires consideration of justice perception and its relationship with organisational trustworthiness perceptions (Celani et al., 2008). This study adds to early empirical work on selection trust, and makes a contribution to ongoing work on the relationship between trust and justice. Furthermore research questions on selection justice and trust also add to the debate about the ordering of trust and justice variable in dynamic processes (Celani et al., 2008; Holtz, 2013; Searle & Billsberry, 2011), as is further discussed in chapter 2.

The literature review linking the different research strands provided a number of important theoretical models and variables leading to the following research questions:

- B1. How do propensity to trust, perceptions of organisational trustworthiness and justice influence applicant reactions and recruitment outcomes?
- B2. How do justice and organisational trustworthiness perceptions influence each other for example in dynamic contexts at different stages.
- B3. How does propensity to trust influence the relationship between justice and trustworthiness perceptions?
- B4. How do the concerns and contexts of applicants during recruitment and selection relate to concepts of justice and trust?

These questions were investigated in a longitudinal study. The data used for answering these questions in this thesis related to the first two stages of the process,

application and interview. Because of insights gained on the dimensionality of propensity-to-trust measures during the course of this research (chapters 4-6), data-analysis for stage 1 looked at the relationships of propensity to trust *and* propensity to distrust with the types of information applicants used during the application stage (chapter 7 and 9). Previous work on justice and trust highlights a tendency for trust variables to act as mediators and moderators depending on the context. In particular, Celani et al. (2008) proposed that trust can act as mediator or moderator of the relationship between justice and outcome variables, depending on the stage of selection. The relationship between selection justice and organisational trustworthiness was explored at stage 2 using a mediation analysis (chapter 8) in line with theoretical propositions and previous evidence (Celani et al., 2008). Based on evidence from stage 1, both propensity to trust and distrust were examined further and a moderated mediation analysis was used to investigate the apparent effects of propensity to distrust on the mediation models (chapter 8). These findings were considered further in the light of qualitative analysis (chapter 9) which served to provide an additional perspective to the quantitative observations, and enabled applicants' own voices to be heard more clearly.

1.3.3 Methodological research questions

Trust research and recruitment/selection research are predominantly informed by quantitative and objectivist methods and methodologies, notably surveys. However, this imposes methodological and interpretative limitations. Qualitative approaches to data collection and alternative epistemological approaches can provide a richer picture than the use of single methods allows (see for example chapter 9, template analysis of stage 1 and 2). Questions of methodology and method are discussed in more detail in Chapter 3 and throughout the discussions of empirical results. Some of the methodological research questions pertinent to this research are given here:

- M1. What are the implications of sample size on the use of different types of analyses? What are the alternatives?
- M2. How do we understand bias arising from the use of surveys in this study?
- M3. How can results produced by quantitative approaches to data analysis link with results from qualitative data analysis?
- M4. What other methodological approaches are needed to address methodological problems in the present research?
- M5. How do the different pieces of evidence fit together to make a whole?

1.4 Overview of the thesis structure

This final section of the introduction serves to outline the structure of the thesis:

Chapter 1 has provided a brief introduction to the area of research and identified some of the overarching issues, problems and gaps, which the work reported in subsequent chapters addresses more fully. The main research question was framed as were a series of subsidiary research questions. An overview of the chapter structure is provided.

Chapter 2 provides a more detailed review of work on organisational trust in Part A, outlining important models in trust research as well as some of the controversies and tensions that populate the field. Part B of chapter 2 is dedicated to the review of literature on selection leading into the more recent work on trust in recruitment and selection processes, showing how elements of trust are potentially important variables that could help understand applicant reactions and selection impact.

Chapter 3 is a presentation of methodology and methods to address the research question(s). In chapter 3 I position my research within a critical realist and pragmatic epistemology and ontology, rather than a purely objectivist or subjectivist one. Methods

used in this study are outlined with reference to those used in the field of trust research and research on recruitment and selection. Detail is provided of the analytic and interpretative approaches used during the data collection, analysis and evaluation stages of the present research.

Chapter 4, 5 and 6 present work on study 1 and 2 and an accompanying review of propensity-to-trust measures. Chapter 4 provides the critical review of measures of propensity to trust. Content analysis is used as part of this review to explore the dimensionality of existing scales. Chapter 5 reports on a factor-analytic investigation of existing scales and items using data from a sample of Open University students (*study 1*). A further exploration of three of these factors and their relationship with other dimensions of personality is also reported. Chapter 6 concludes the work on propensity to trust with an analysis of a card-sort (*study 2*). The purpose of study 2 was to consider the construct and face validity of five propensity-to-trust factors using alternative methods. The card-sort involved a small number of participants rating items on five dimensions that were identified via an early factor analysis in study 2. Together with study 1, study 2 provided insights into using propensity to trust in research designs for investigating the role of trust within selection and recruitment contexts.

Chapter 7, 8 and 9 detail the results from a survey-based longitudinal study (*study 3*). Chapter 7 covers the data relating to stage 1 (post-application) and presents findings pertaining to applicant attraction and propensity to trust. Chapter 8 explores the data relating to stage 2 (post-interview) and presents the results from mediation and moderated mediation analysis of justice, trustworthiness, propensity to distrust and multiple outcome intentions. Chapter 9 presents results from a qualitative, template analysis covering both stages 1 and 2 to provide a contrasting view of the recruitment and selection process helping to understand the concerns of applicants in this context better.

Chapter 10 is a concluding discussion of the results, with a specific focus on providing some theoretical integration of the findings. Recommendations for further research and a summary of what was learned from the research are also provided.

Chapter 2 – Literature review

2.1 Introduction

The intention of the present chapter is to critically review research on trust and research on recruitment and selection. In particular this chapter seeks to develop research questions and hypotheses which provide the rationale for empirical work reported in chapters 4 to 9. The benefits of researching trust, and recruitment and selection lie in the bridging of different fields. There has been a dearth of attention on trust within a selection context but rather than being limited to contributing only to recruitment and selection research there are three main outcomes:

1. New insights on organisational trust by studying trust in dynamic contexts.
2. An extension of existing theory on recruitment and selection, specifically from the applicant perspective.
3. A contribution to previous work on the relationship between trust and justice. It is the bridging across broader theoretical domains that make an important original and timely contribution to theory and research.

This chapter reviews literature relevant to trust in recruitment and selection contexts in order to identify theoretical perspectives that inform a trust –based view of recruitment and selection. This chapter is divided into two parts: The scope of Part A lies in the literature on interpersonal and organisational trust and two main themes are discussed. Firstly what do we mean by trust? This identifies definitions and contexts for trust and leading into the conception of trust as a quality in social exchange relationships found in organisation. Secondly the components of trust in social exchange relationships

are considered further, looking at the role of temporal aspects of trust, personality, trust in social networks and justice and trust.

Part B addresses the linkage between trust and recruitment and selection further with specific emphasis on applicants' experience of the recruitment and selection context. The first aim of this part is to make more explicit links between trust concepts and recruitment and selection contexts by looking at how previous research has studied applicants and how it has conceived of the relationship between applicants' experience and their perceptions of justice and organisational trustworthiness. Secondly because of the importance of uncertainty reduction and vulnerability to conceptions of trust the recruitment context will be discussed with reference to these ideas. Both parts A and B develop a series of research questions and hypotheses which are then examined further in the empirical chapters.

2.2 Part A: What do we mean by trust?

2.2.1 Requirements for trust

Regardless of whether it is individual, organisational or some other form of trust, trust has requirements without which there would be no need to trust. The first requirement is *uncertainty*: When information about a situation or a party in a trust exchange is unknown, trust serves to reduce the effect of perceived uncertainty and enables a person to make a conceptual leap, during their decision making, and act, even when there are gaps in information (Lewis & Weigert, 1985; Luhmann, 1979). The second requirement for trust is *risk* (cf. Mayer et al., 1995, p. 711; Rousseau, Sitkin, Burt, & Camerer, 1998). Risk refers to the probability of loss in a wider sense of the word although trust and risk represent separate processes (Das & Teng, 2004). Trust should not be confused with a lack of uncertainty or a lack of perceived risk and more recently some

authors have considered that trust and risk represent separate ways of relating to uncertainty, rather than ways of reducing it (Frederiksen, 2014). Returning to context, recruitment and selection present a situation containing both uncertainty and risk and thus makes trust a requirement in this context (Searle & Billsberry, 2011). Finally, *interdependence* is a third requirement that is often understated in the trust literature. Interdependence arises because the parties involved are in an exchange relationship (economic or social) and depend on the quality of the relationship being reciprocal (Blau, 1964a). Without elements of reciprocity (perceived or actual) there is no trust. Trust has been viewed as dependent on fundamental aspects of the relationship between trustors (the giver of trust) and trustees (the recipient or object of trust). Without such dependence there would be no vulnerability arising from the relationship, and consequently there would be no risk and ultimately no basis for trust (cf. Hosmer, 1995; Rousseau et al., 1998).

2.2.2 Definitions of trust

Historically one of the complications arising from tensions in the field has been a lack of consensus on definitions of trust. In response to this lack of a unified definition there have been a variety of attempts at tightening definitions of trust in order to promote better theoretical integration (Lewicki, McAllister & Bies, 1998; Mayer et al., 1995). Comprehensive discussions and reviews of trust definitions from different fields can be found in a number of sources (Blomqvist, 1997; Dietz & Den Hartog, 2006; Lee, 2008). Depending on the positions of researchers, terms such as cooperation (Gambetta, 1988), confidence (Deutsch, 1962), ethical behaviour (Carnevale & Wechsler, 1992), fairness (Nyhan & Marlowe, 1997), reliance on others (Giffin, 1967) have all been used to describe trust, often synonymously. However, there has also been a growing recognition that many of these terms are psychologically distinct from trust even if many are related

to it (e.g. trust and confidence, Luhmann, 1979; Mayer et al., 1995). The conceptual problem of defining of trust is underpinned by Nootboom's four place predicate that 'someone trusts someone (or something)...' to do (or not to do) something conditional upon context and constraints (Nootboom, 2002, p. 38). This should alert one to the complex nature of trust in which multiple terms of reference and dimensions are required to describe the elements combining into an experience of trust.

Much of the research over the last fifteen years has adopted Mayer et al.'s (1995) definition of trust as ...

a willingness to be vulnerable to action of another party, based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. (p. 712)

Distinguishing between these elements, trust is a *willingness to accept vulnerability*, situated in the trustor. Furthermore, it is a *confident expectation* (Lewicki et al., 1998) regarding the trustworthiness of the trustee, that lets a trustor infer the degree of his/her vulnerability. As people do not have full knowledge of another person or a situation, they must rely on their expectations that a trustee will (probably) behave in a favourable manner, thereby keeping perceived vulnerability and risk at a level acceptable to the individual.

Dietz & Den Hartog (2006) position trust in a given trust situation involving two parties as involving perception, decision and action:

1. A confident expectation that the recipient of trust will deliver a positive outcome, or at least not a negative one

2. A willingness and decision to be vulnerable in a situation of risk, in which outcomes are uncertain
3. A demonstration and expression of trust through commitment to risk-taking behaviour – trust as an action

There is good agreement on definitions of trust based on these three aspects in the literature (Gill, Boies, Finegan, & McNally, 2005; Hosmer, 1995; Rousseau et al., 1998; Saunders, Dietz & Thornhill, 2014), although generally research only considers trust as an expectation and trust as a willingness to be vulnerable, with less attention on behavioural elements.

Fink, Harms, & Möllering (2010) recently carried out a thought-provoking study of 126 definitions of trust found in the organisational trust literature (the number of articles identified was not reported). Using content analysis they identified 12 constitutive dimensions of the trust concept which clustered into two broad 'definitional corridors', namely 'risk and uncertainty' and 'confidence'. Their evidence suggests that previous studies on trust fundamentally differ in their emphasis on either risk/uncertainty reduction, or confidence. All of these emphasise 'expectations' and 'interaction partners' regardless of which definitional corridor they are in. In conclusion, there appears to be little need to adopt a unitary definition and instead one should separate trust dimensions and position research in one or more definitional corridor (Fink et al., 2010, p. 104).

2.2.2.1 Key models of trust

One of the most influential models of organisational trust has been that developed by Mayer et al. (1995). This model is sometimes referred to as the 'trust antecedent framework' (Nguyen, Lim, Jiang, & Sun, 2009) or as the ABI model of trustworthiness (Dietz, Martins, & Searle, 2011) depending on which aspects of the model

are emphasised. This framework outlines the relationships between trustworthiness perceptions and other related trust concepts in interpersonal dyadic relationships rather than trust of organisations. The central idea is that trust is a willingness to be vulnerable which is based on the trustor's evaluations of the trustee's trustworthiness relative to their perceived *ability, benevolence* and *integrity (ABI)*. Ability refers to the trustee's competence in a domain, benevolence to their intention towards the trustor and others and integrity refers to the trustee's adherence to a set of values agreeable with the trustor (Mayer et al., 1995, pp. 717-720). In addition the model postulates a further antecedent in the form of a personality variable, *propensity to trust*, which influences both trust as well as trustworthiness perceptions. Propensity to trust is based on the personality construct pioneered by Rotter (1967) and reflects more enduring dispositions towards trusting others (This variable is further discussed in section 2.2.3.2). Ultimately, how trust is translated into risk-taking behaviour is dependent on what actual risks are perceived. Finally the model presents a closed loop in which outcomes feed back into future evaluations of trustworthiness. For clarification, figure 2.1 below shows a schematic of Mayer et al.'s (1995) model.

An abundance of research has built on the trust antecedent model since its conception. Research on trust at an interpersonal level generally shows good support for the ABI components in the model and their dynamic role in interpersonal relationships. As predicted, propensity to trust and trustworthiness information have been found to interact dynamically. For example, when information about a trustee is weak or absent propensity to trust has a much stronger influence than when there is a great deal of information about the trustee (Gill et al., 2005). Meta-analysis of studies investigating the relationship between trustworthiness, propensity to trust and trust and their relationship with organisational outcome variables also identifies very good support for the ABI

elements at the co-worker and leader level (Colquitt, Scott & LePine, 2007). Yet, evidence points towards situation-specific aspects that influence how individual variables of the model perform (e.g. ability has a greater effect on trust in manufacturing jobs vs. managerial jobs). Other evidence regarding the ABI framework has shown that only goodwill trust (e.g. integrity and benevolence) appear to have an impact on employee's trust in supervisors (Colquitt & Rodell, 2011).

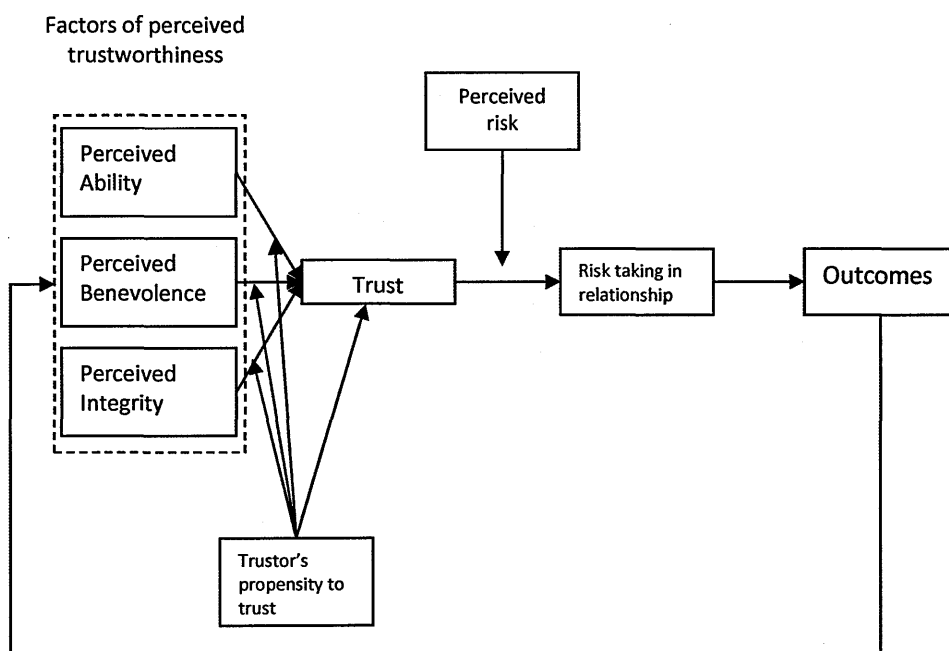


Figure 2.1 Trust antecedent framework; diagram adapted from Mayer et al. (1995)

The ABI components appear to be relevant, but only under certain situations, depending on the stakeholder and their locus within an organisation (Pirson & Malhotra, 2011). Therefore the implications are that although the ABI model is a good general approximation, individual components of the model appear to unfold differently depending on the situation and level of analysis. Furthermore although Mayer et al. (1995) claim their model as a model of organisational trust it is principally a model of interpersonal trust, rather than organisational trust (cf. Schoorman et al., 2007). When

applied to organisational level trust rather than interpersonal, dyadic forms, research and evidence show that further dimensions of trustworthiness such as consistency and predictability need to be included, in addition to the three in the ABI model (Brodke et al., 2009; Clark & Payne, 1997; Dietz & Den Hartog, 2006; Six & Sorge, 2008).

More recently Dietz & Den Hartog (2006) proposed a multidimensional three-stage process model involving input, process and output stages (refer to figure 2.2). Conceptually, this is indebted to Mayer et al., but differs in a number of important ways. Judgements of trustworthiness *and* propensity to trust are located at the input stage and act as the antecedents to trust; behavioural intentions and manifest behaviours, including risk-taking fall into the output stage. Trust beliefs and trust decisions occupy the intermediate process stage of Dietz and Den Hartog's (2006) model and in contrast with Mayer et al. (1995) separate the expectational stage from the behavioural decision stage of trust. Another important difference is the inclusion of additional inputs: quality of the relationship between the trustor and the trustee, situational and organisational constraints (e.g. policy, contracts), as well as domain-specific concerns (for example, professional oaths and other codes of conduct that convey status dependent trustworthiness).

A key difference between the Mayer et al. trust antecedent framework and Dietz and Den Hartog process model is the role of interpersonal and organisational forms of trust. It may not always be easy to separate interpersonal (trust between people) from organisational trust (trust between people and organisations) and as Dietz (2011) comments, interactional and institutional forms of trust may be relevant in most trust situations at the same time. Mayer et al.'s (1995) trust antecedent framework lends itself more specifically to situations where trust occurs between individuals, but breaks down

Input Process Output

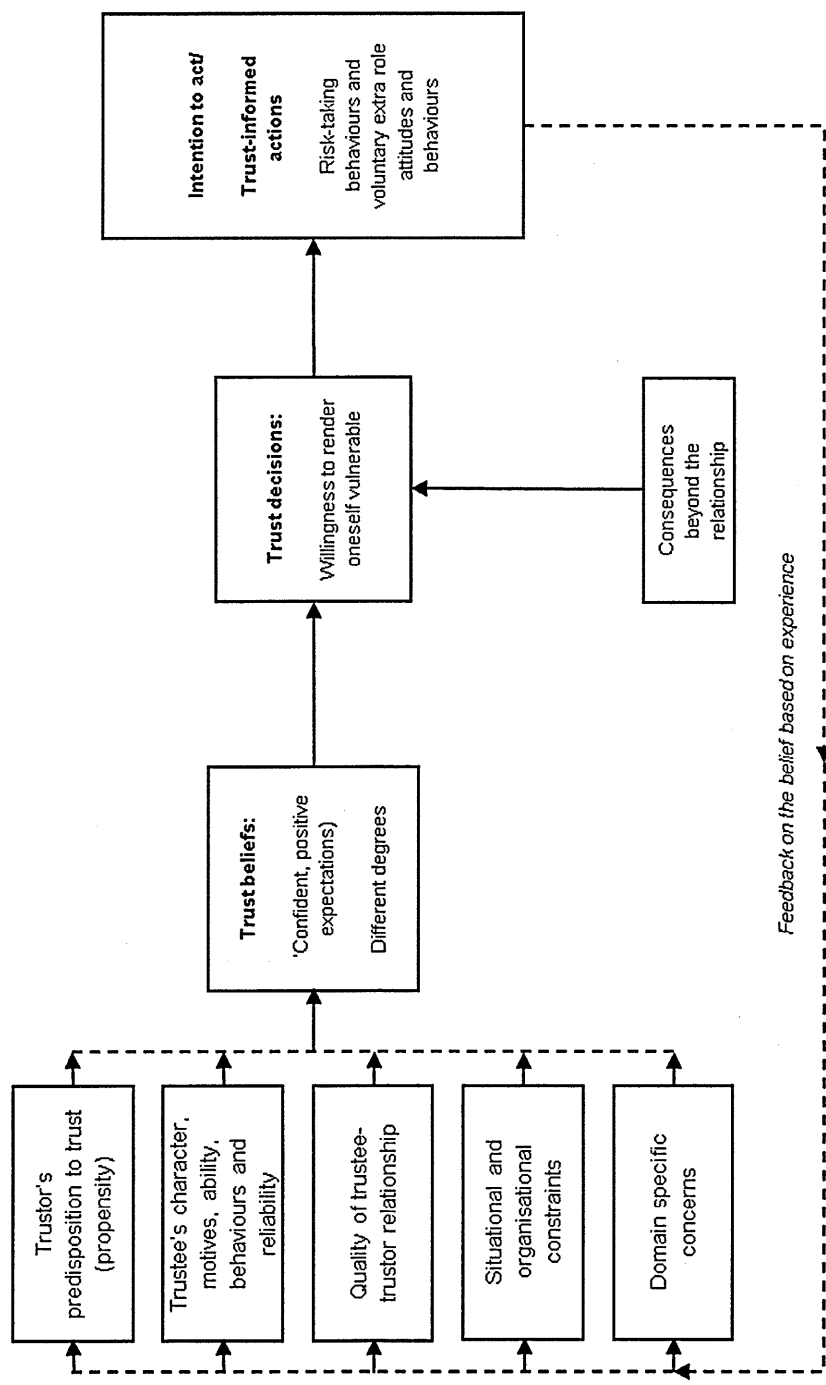


Figure 2.2 Process model adapted from Dietz & den Hartog (2006)

when there is little information on the trustee's trustworthiness, or when the trustee is not a person. Dietz and Den Hartog (2006) therefore provide a useful extension and improvement to Mayer et al.'s ideas that includes institution-level and relational variables within their framework leading to a more comprehensive coverage of trust situations in organisations.

2.2.2.2 In whom does one trust? Individuals or organisations?

Theorists have recognised that trust can be placed in people, social structures such as organisations and entities within them (Nooteboom, 2002). The distinction between different levels of trust and therefore in whom one trusts is not arbitrary but nuanced, with implications for how one conceptualises one's research. Dietz & Den Hartog (2006) broadly outline three main strands of organisational trust research relating to whom one trusts: Intra-organisational (trust between members of the same organisation; *internal*), inter-organisational (trust between members of different organisations; *external*) and marketing (between customers of an organisation and a brand). An example of recent work that embodies similar distinctions can be found in Searle et al. (2011) who distinguish between employees' trust in their co-workers and others whom they have contact with, and trust between employees and organisational entities such as management which amalgamate a variety of interpersonal relationships and systemic processes (e.g. HR)

There have been several discussions of systematic frameworks for classifying levels of trust in organisations. For example, Currall & Inkpen (2002, 2006) provide a framework for mapping out trust situations that fits well with a multi-level conception of trust. Their model classifies situations according to the interactions that occur in organisations between *and* across different micro and macro levels (person, group or

firm). Thus, trust situations can be characterised depending on whether the relationships involve individuals, groups or organisations or a combination, for example trust between a work group and the organisation to which it belongs.

Similarly, Fulmer & Gelfand's (2012) characterisation of trust enables the classification of researchers and their approaches within a multi-level/multi-referent framework and is based on a systematic view of the literature. They found that researchers characterise trust within each level of the trustor (e.g. individual, team, and organisation) whereby said trustor places trust in a referent (e.g. leader, colleague, internal and external stakeholders). At higher levels trust is typically identified as a psychological state that is shared among members (e.g. teams, or organisational) in contrast with lower levels where the state of trust appears to be situated within the trustor rather than shared. They contend that at higher organisational levels the individual trustee characteristics also appear to become less important. The role of individual antecedents (e.g. ABI, propensity to trust) is taken up by organisational and team-level variables. They argue that therefore definitions of trust should distinguish not only between levels but also between referents, specifically where the referent is an organisation rather than a person.

In addition to the above observations, it appears that the relatively simple representation of trust in the trust antecedent framework is only one part of the story. Previous research indicates trust operates slightly differently when levels and referents are taken into consideration, as can be seen when considering organisational level studies using the ABI elements (see section 2.2.2.1). Fulmer & Gelfand's (2012) work conceptually supports the input stage of Dietz and Den Hartog's (2006) process framework, highlighting that trustor and trustee characteristics (e.g. propensity to trust and

trustworthiness) as antecedents of trust can be supplemented or replaced by organisational characteristics relevant to the situation, including the nature of communication processes, structural elements, and aspects that are outside of the organisation (e.g. suppliers, organisational partnerships). Table 2.1 below provides an overview of Fulmer & Gelfand's (2012) framework using examples drawn from their paper to illustrate their multi-level and multi-referent mapping of trust literature

Table 2.1

Examples of levels and referents – based on Fulmer & Gelfand (2012)

		Referent		
		Individual	Team	Organisation
Level	Individual	Dyadic trust, e.g. Trust in leaders	Leaders' trust in teams Identification trust of members with teams	Identification and relationship of members with the organisation
	Team	Teams' trust in their leaders, e.g. based on leadership style	Team to team trust e.g. based on communication, composition of teams & shared characteristics	Collective trust in management
	Organisation	Trust management via policies and impact on employee satisfaction. Common principles (e.g. HR)	Trust and control in innovation teams	Trust and satisfaction with inter-organisational relationships

Returning to Dietz and Den Hartog's three strands of research, situations arise when trust is placed in a brand (Dietz & Den Hartog, 2006). Brands and organisations can be synonymous (e.g. Facebook, Apple), however a brand is not an organisation, but refers to features of a product that distinguishes the product from those of a competitor and

may identify individual goods, groups of goods or all goods sold by a company (American Marketing Association, 2013). Brand trust has been defined as a willingness to rely on the ability of a brand to perform its stated function (Chaudhuri & Holbrook, 2001). When goods from competing companies are very similar, or a product is new to the market, a high degree of uncertainty may exist in the consumer. Within an uncertainty reduction perspective, brand trust functions by reducing the level of uncertainty and enables a customer to choose a good with a perceived high degree of reliability that is likely to perform well. While a brand may signal trustworthiness, in parallel an organisation may be engaged in illegal or unethical practices that are hidden from the customer (such as use of horse meat in ready meals). As a result, by trusting a brand, customers are particularly vulnerable to an organisation's lack of benevolence and its conduct in matters concerning quality and safety (Doney & Cannon, 1997). Brand trust does not neatly fall into the multi-level and multi-referent frameworks although in Fulmer and Gelfand's framework, brand trust should probably be situated as individual trust of an organisation.

Being clear who the stakeholders in trust are is an important issue in deciding what is relevant to answering research questions on trust and for operationalizing constructs in research design, and so care has to be taken in considering the levels at which trust operates in any given situation. The work reported in chapters 7, 8 and 9 as viewed within the multi-level/multi-referent view focusses on the individual level with an organisational referent.

2.2.2.3 Trust and Distrust

There is a considerable debate on the definition of trust and its apparent 'shadow', distrust. Specifically this debate focusses on the extent to which these are separate constructs. One argument is that distrust is simply the bipolar opposite on a

continuum of trust (e.g. Rotter, 1967; Bigley & Pearce, 1998). However, the idea that trust and distrust are separate concepts has gained some ground over the last 20 years (Kramer, 1999; Kramer, 1994; Lewicki et al., 1998; Saunders & Thornhill, 2004; Saunders, Dietz, & Thornhill, 2014; Sitkin & Roth, 1993).

In the definition adopted by Lewicki et al. (1998) trust and distrust are symmetrical with trust being defined as 'confident positive expectations in another's conduct' and distrust as 'confident negative expectations in another's conduct' (Lewicki et al., 1998, p. 439). Trust and distrust can nevertheless remain separate, albeit linked processes each having their independent high and low states. As a result, multiple permutations of trust and distrust are possible (*four alternatives: high and low trust and distrust*; Lewicki et al., 1998; Saunders & Thornhill, 2004; *nine trust/distrust combinations: high, weak and low trust and distrust*) Saunders et al., 2014). Assuming four permutations, in a situation of low trust and low distrust there is no strong expectation of favourable conduct or of unfavourable conduct, and therefore an ambivalent attitude towards being vulnerable is expressed. In a situation where there is high trust and low distrust, expectations are, that one will be treated favourably and not unfavourably, thereby creating a willingness to be vulnerable. In the low trust/high distrust situation there is no expectation that one will be treated favourably, but instead one expects to be treated unfavourably and one becomes unwilling to be vulnerable. Finally in the high trust and high distrust situation, there is a confident expectation of being treated favourably as well as a confident expectation of also being treated unfavourably. This should lead to willingness to be vulnerable as regards the elements of trust and unwillingness to be vulnerable as regards the elements involving distrust.

There is some evidence in support of trust and distrust coexisting relative to the same trustee so that at least in some situations, trust and distrust can occur together

(Saunders & Thornhill, 2004), although this appears to be rare (Saunders et al. 2014). Trust in such cases seems to be related to the quality of information, whereas distrust seems to be related to the consistency of information. Both interpersonal and organisational levels appear to be referents for trust and distrust (cf. Saunders & Thornhill, 2004) suggesting that trust and distrust apply equally to them. Other recent work supports the coexistence of trust and distrust, although they appear to be expressed at different intensities of affect (Saunders et al. 2014; Smollan, 2013 trust and distrust of change managers) resulting in a much wider set of permutations than the four available within the Lewicki et al. framework.

The scarcity of the high-trust/high-distrust scenario may be attributable to emotional contagion or salience effects in the reporting of distrust and trust experiences. There are several schools of thought on this. One possibility is that positive and negative affect occur on a bipolar scale and are not experienced together and any reporting of co-occurrence may be due to measurement error (Green, Goldman, & Salovey, 1993). The other perspective is that positive and negative affect are separate mood states that can be experienced together although having 'mixed' feelings may be experienced as uncomfortable (Priester & Petty, 1996) leading to ambivalence. Another possibility is that individuals engage in dissonance reduction (Festinger & Aronson, 1960) when they encounter high trust and high distrust together. A process of trivialisation (Simon, Greenberg, & Brehm, 1995) could resolve a conflict between trust and distrust about the same trustee. All these scenarios would impact on the reporting of simultaneous high trust/distrust situations resulting in a lack of reports by study participants. The end result of such process might favour one viewpoint remaining more dominant, or none, thus allowing individuals to act in a given situation even if there are simultaneous good reasons for trusting and distrusting.

Finally, evidence that trust and distrust are separate is also growing in the light of recent neuropsychological studies. Neuropsychological work on face perception has highlighted that some trust and distrust decisions are governed by fairly rapid automatic processes, for example scanning faces for characteristics that signal trustworthiness or its lack (Todorov, 2011; Todorov, Pakrashi & Oosterhof, 2009; Willis & Todorov, 2006). Dimoka (2010) addressed the coexistence and separateness of trust and distrust more directly. Using fMRI scans within an experimental manipulation to explore which areas of the brain are activated during trust and distrust experiences, she exposed trustors to trustee information of varying degrees of trustworthiness. Findings suggest that trust is associated with the brain's centres for reward, prediction, and uncertainty. In turn distrust appears to be associated with the brain's centres related to emotions and fear of loss. Furthermore, different dimensions of trust as triggered during the experimental manipulation were also associated with different areas of the brain. Processing of credibility and discredibility signals in the vignettes seemed to take place in the prefrontal, cognitive areas of the brain, whereas benevolence/malevolence signals activated the areas dealing with emotions, such as the limbic system. Dimoka concludes that this is evidence for at least a two dimensional conception for trust/distrust, but argue further that a multidimensional conception of trust and distrust may yet include further dimensions.

Given the evidence so far, the distinction between trust and distrust appears to be given more support in recent research and evidence suggests people are attending to different things when they trust versus when they distrust. One of the implications for future research is that the trust/distrust distinction needs to be taken into account in the design of studies. Although there is some evidence of trust and distrust being relevant at both individuals and organisational levels, more work covering trust/distrust perceptions

of organisations is clearly needed. There is little work looking at how elements of important key models relate to trust and distrust, (e.g. ABI model of trustworthiness, for example propensity to trust and distrust, relationship between goodwill and competence-based trust and distrust).

2.2.2.4 Cognitive and Affective forms of trust

Lewis & Weigert (1985, p. 972) describe cognitive and affective trust as separate but interpenetrating processes, giving rise to the unitary experience of trust. Cognitive trust is concerned with one's expectations of reliability and dependability (McAllister, 1995) providing 'good rational reasons' why one should consider another trustworthy (Lewis & Weigert, 1985). Affect-based trust relates to one's relational expectations of reciprocity, care and concern (McAllister, 1995) that provide a basis for social exchange (cf. Blau, 1964b). Previous work suggests that cognitive and affective aspects of trust emerge at different times in a relationship (Colquitt, Lepine, Piccolo, Zapata, & Rich, 2012; McAllister, 1995; Webber, 2008; Williams, 2001). In the early stages of a relationship, cognitive cues are likely to be more important in reducing uncertainty than affective cues (McKnight, Cummings, & Chervany, 1998). This is because in early stages of a relationship, when there is little personal experience of the trustee and limited emotional investment, role expectations and group membership convey ready cues of the trustee's likely behaviour in exchange situations. As the relationship deepens and experience is gained, the relational and affective components of trust then become more prominent. As individuals develop affective ties (e.g. co-worker ties) the tendency of benevolent interactions increases (McAllister, 1995) and individuals gain experience of a trustee's consistency of affect that allow further review of the level of attachment and identification a trustor should give (Lewicki & Bunker, 1996). As a result of this process of

identification affective trust is also sometimes referred to as identity-based trust (Rousseau et al., 1998, p. 399)

Some authors view trust as being predominantly cognitive in nature. For example, Das & Teng (2004) present a risk-based view of trust and argue that both trust and risk are about probabilities of events; trust is about the probability of a positive event and risk about the probability of a negative event. Perceptions and evaluations of these probabilities then act in complimentary bipolar fashion as mirror images of each other. This risk-based view entails a conception of trust as being more highly calculative, and to which affect and faith-based trust can be reduced thus aiding quantification and measurement of trust levels (Das & Teng, 2004, p. 111).

However, a recent study examining, affect-based and cognitive trust and justice shows that a rigorous and quantified approach is also possible with an affect-based view of trust (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). Findings support that cognitive and affect-based forms of trust serve different roles in mediating the relationship between different aspects of justice and performance: For example, cognitive trust (e.g. expectations of line manager's reliability and dependability) helps reduce the effect of uncertainty on performance, whereas affective trust does not. Instead, affective trust mediates the effect of justice on performance via organisational commitment, when cognitive trust does not. This implies that affective and cognitive trust represent separate pathways utilised by employees when evaluating justice events in the workplace; where justice increases cognitive trust this appears to mitigate against a decline in performance by reducing uncertainty. When justice is high, affect-based trust appears to strengthen commitment and deepen the exchange relationship which in return has a favourable impact on job performance.

2.2.2.5 Other types/forms of trust

To borrow from Blomqvist (1997) there are many faces of trust. One area where this becomes apparent is in the different types of trust found in the literature. To some extent these are overlapping concepts, which require some clarification as part of this review. There are three main typologies to be discussed: Lewicki & Bunker's (1996) calculus-, knowledge- and identification-based trust, Kramer's (1999) three types of presumptive trust, and Nooteboom's (2002) elements of behavioural trust.

Lewicki and Bunker (1996) distinguish between three types of trust, comprising progression from calculus-based to identification-based trust via knowledge-based trust. *Calculus-based trust* is based on rational analysis of perceived costs and benefits, maximising rewards whilst minimising reputational costs, for example as a result of leaving a business relationship (Williamson, 1993). In calculus-based trust the issue is whether or not the trustee can be relied upon consistently to live up to a reputation, rather than be tempted to seek reward at any cost. In trusting another the critical angle in calculus-based trust lies in the trustor's perception of balancing his/her gains against any potential losses that may be incurred if the trustee does not live up to their reputation. Related to this is deterrence based trust, (Shapiro, Sheppard, & Cheraskin, 1992) in which the only basis for trust is the expectation and threat of punishment of the trustee, if his/her consistency of behaviour is not maintained.

Knowledge –based trust relates to the trustee's predictability, based on available information, and therefore has strong cognitive elements. Quality and abundance of information enhance prediction accuracy in a trust situation and can enhance trust, even when a trustee is 'predictably untrustworthy, because the ways that the other will violate trust can be predicted' (Lewicki & Bunker, 1996, p. 121). *Identification-based trust* is

formed when parties in a relationship have developed shared goals and intentions, and when they understand each other so that each can represent the other in negotiation. Identification-based trust is related to group identification processes, where group membership encourages the formation of shared goals and identification which in return leads to increased co-operation amongst members. Identification-based trust and affect-based trust (for further discussion on affect-based trust refer to section 2.2.2.4) are strongly linked, since group membership and identification tend to increase the emotional intensity experienced by group members. Even though it is a potentially important form of trust, identification-based trust is considered rare in organisations (Panteli & Sockalingam, 2005).

Dietz & Den Hartog (2006) argue that neither calculus- nor deterrence-based forms of trust should be considered as real forms of trust as they both contain manifest elements of distrust. (Dietz & Den Hartog, 2006, p. 563; see also section 2.2.2.3 for a further discussion of trust and distrust). Nevertheless, despite conceptual issues, deterrence and calculus –based trust appear to continue to be useful in research on financial trust (e.g. Li, Pieńkowski, Van Moorsel, & Smith, 2012; Saporito & Colwell, 2010).

The second typology comprises three presumptive bases for trust (Kramer, 1999). These types are summarised in table 2.2 which intends to provide an indication of linkage and overlap of different concepts. In the second column I have linked each presumption with other trust types including affect-based and cognitive trust (which are further discussed in section 2.2.2.4).

Noteboom's (2002) consideration of elements of *behavioural trust* also overlaps with elements of other models of trust, notably the trust antecedent framework and process model discussed earlier, both of which contain behavioural trust stages.

Table 2.2

Three forms of presumptive trust

Presumption	Links with
<i>Category-based trust</i>	
<ul style="list-style-type: none"> • Category-based trust is derived from people’s membership in an in-group relative to an out-group. • Members of the in-group are presumed to be more trustworthy than those in the out-group (Brewer, 1979; Tajfel & Turner, 1979) 	<ul style="list-style-type: none"> • Affective • Identification-based
<i>Role-based trust</i>	
<ul style="list-style-type: none"> • Placing trust in individuals who occupy a specific role, such as those in a position of authority, e.g. teacher, doctor, lawyer, engineer, scientist, etc. • Comes into focus when there are violations; e.g. Harold Shipman (Pringle, 2000) • Role based trust is resistant to violations (Ferriman, 2001) • Effort reducing, stereotypical thinking (Devine, 1989) 	<ul style="list-style-type: none"> • Cognitive • Knowledge based
<i>Rule-based trust</i>	
<ul style="list-style-type: none"> • Trustors rely on formal, or informal shared social norms which signal the appropriateness and trustworthiness of the trustee. • Dress codes signal group membership and trustworthiness (Brandt, 2003) • Cultural body language norms in trust settings (Argyle, Henderson, Bond, Iizuka, & Contarello, 1986) • Personal use policies (Hewlett Packard, Miller, 1992, p. 198). (Hewlett Packard) 	<ul style="list-style-type: none"> • Affective • Identification-based • Knowledge-based

(Adapted from sources used in addition to those included in the table: Kramer, 1999; Lewicki & Bunker, 1996; Lewis & Weigert, 1985)

By behavioural trust Nooteboom refers to the act of trusting, which follows a decision and evaluations of the trustee’s trustworthiness. In an exchange relationship this is the action which expresses the trust in the trustee (for example taking the medication administered by a Doctor for a condition). The definition of trust for this conception is based on the idea that trust is an expectation regarding the trustee (people, places or things) in which the object of trust will be reliable and will not fail (e.g. the Doctor turns out to be incompetent). Rather than answering whom one trusts in terms of levels and referents as others have done (see section 2.2.2.2), Nooteboom’s taxonomy seems to

refer more to what trust is about, or more specifically what elements cause behavioural trust to fail. Behavioural trust in Nooteboom's account is based on an Aristotelean analysis of trust in which the fulfilment of trust is due to underlying multiple causes: these relate to the actors, means, methods skills and knowledge, objectives, motives and conditions that support or limit the trustee's action.

Each element in Nooteboom's framework has its own form of trust. Thus behavioural trust (a behavioural expression of trust in a trustee) may involve antecedent *materials trust* (whether or not the trustee has access to the means for fulfilling obligations), *competence trust* (whether the trustee is competent in fulfilling said obligations, linking also with the ability dimension in the trust antecedent framework). A trustor can consider the trustee's intention and extend *intentional trust* (comprising *dedication trust* in which the object of the trust is the level of care and dedication exercised by the trustee and *goodwill trust*, relating to the trustee's benevolence). One can consider the conditions under which the trustee is able to fulfil obligations (*conditional trust*) and whether or not there are examples of the trustee's behaviour (*exemplar trust*) that can be imitated (for example role models in organisations are exemplars that an employer is inclusive of minorities) Finally, there may be information (*informational trust*) on the trustee that provides reassurance, including that of the trustee's honesty (*honesty trust*).

The key component in behavioural trust is the actor, whose actions depend on other causes. A trustor's behaviour can be understood in terms of the evaluation of the trustee in terms of the different forms of trust, and breaches in trust can be addressed by supplying the missing elements (e.g. if material trust is lacking supplying the means necessary for action will resolve the breach). Nooteboom acknowledges that in practice

such distinctions may be difficult to make since a trustee's behaviour may have multiple causes. On the other hand consideration of different elements of behavioural trust highlights some of the sophisticated information processing that is taking place in trustor's evaluation of the trustee and the trustor's subsequent decisions and actions.

2.2.3 Components and dynamics of trust in social exchange

Trusting takes place in a social context for exchange (Blau, 1964b). The central premise of exchange theory when applied to workplaces is that the attitudes and behaviours displayed by individuals are driven by reciprocal expectations of tangible or intangible rewards (Blau, 1964b). Rather than precisely defined and legally controllable, rewards in social exchange are not accounted and are 'based on a diffuse obligation to reciprocate' (Aryee, Budhwar, & Chen, 2002, p. 267). Work from a social exchange perspective has focussed attention on explaining why such a 'norm of reciprocity' (Gouldner, 1960) exists. Its contribution has been to explicate the mechanisms by which employees are engaged into a system of reciprocal exchange and by which they maintain an employment relationship with their employer.

Together with leader member exchange, support commitment, and psychological contract, trust has been considered to be a quality of social exchange (Cropanzano & Byrne, 2000). In particular the ability of trust to adapt to the multiple dynamic foci inherent in social exchanges makes trust an important intervening variable in the relationship between justice and behaviour (Colquitt et al., 2013; Cropanzano & Byrne, 2000; Cropanzano & Mitchell, 2005). Work on trust in exchange relationships has therefore tended to focus more strongly on justice and other components, for example the mediating role of trust in exchange relationships involving justice (Aryee et al., 2002).

The intention of this section is to discuss components of trust with specific emphasis on their potential roles in social exchange dynamics.

2.2.3.1 Temporal aspects of trust

Exchange relationships are dynamic because they develop over time (Cook & Emerson, 1978; Troyer, Watkins, & Silver, 2007). The discussion of affective, cognitive and other types of trust above (section 2.2.2.4) highlights the linkage between temporal aspects of trust and exchange; the progression from more calculative to relational forms of trust would appear to drive deepening of exchange over multiple interactions. There are two further concepts that directly relate to the progression of trust through time: initial trust and swift trust.

Initial Trust (McKnight et al., 1998) is based on the observation that trust at the beginning of a relationship is different to trust later in the relationship. When individuals first meet, they do not know each other and therefore there should be no basis for trust. Yet, contrary to such an expectation, studies reveal the somewhat paradoxical finding that trust is at its highest at the beginning of organizational relationships, followed by a steady decline as the relationship unfolds (Kramer, 1994; McKnight, Cummings & Chervany, 1998). McKnight et al., (1998) propose that initial trust between individuals and an organisation is formed by propensity to trust (see section 2.2.3.1), institutional trust beliefs, reputation and cognitive processes. In particular, the institutional trust belief consists of two ideas:

1. that there are structural safeguards that prevent adverse effects or allow the trustor to control such effects (structural assurance beliefs) and
2. that the situation is normal and therefore structural assurances will be maintained (situational normality beliefs).

The explanation for high initial trust is that dispositional trust forms a baseline for trusting, but as the relationship develops, more accurate evaluations, based on actual interactions take their place causing the decline in trust in comparison with the baseline (McKnight et al., 1998, pp. 477-478).

A large body of work on initial trust studied it in the context of new technology use for example in banking (Kim, Shin, & Lee, 2009; Kim & Prabhakar, 2000) and building online trust in new customers (Yang, Hung, Sung, & Farn, 2006). The interest in initial trust in commercial situations is easy to understand considering that web businesses rely on customers who may never have shopped electronically, or because they have previously shopped with well-known rivals. In HR contexts initial trust may also be important, as shown recently in work on social work recruitment in the UK (Searle & Patent, 2012). After initial high trust recruitment and attraction events, selection processes expose a candidate to aspects of the organisation that modify their initial perception followed by further experiences during induction and longer term tenure. With an accumulation of more significant breaches of trust over time, employee's high initial trust eventually erodes until they decide to leave.

Swift Trust (Meyerson, Weick, & Kramer, 1996) is related to initial trust, but applies more specifically to temporary groups where it acts as a swift enabler of cooperation, as if there was trust. Some theorists consider swift trust as a precursor to initial trust (e.g. in recruitment: Searle & Billsberry, 2011b, p. 71). The need for trust in temporary groups is dependent on a number of factors, based on the reasons for why a group is brought together in the first place. Temporary groups are typically assembled for specific projects that are time critical. Developing relational trust slowly is just not practical in these settings. Project work needs to move quickly to working out task

allocation under the presumption that members in the project group can be relied on without having previous knowledge of the other members. Meyerson et al. (1996) consider temporary groups as 'suggestible systems' in which swift trust functions specifically to reduce the need to monitor others and thus preserves resources to perform. The process is facilitated by dispositional elements, by implicit theories individuals hold about others, and involves rapid confirmation of category/role-based trust. It is swift because it is independent of the actual object (e.g. the trustee) being perceived. Further support for swift forms of trust comes from interpersonal research looking into subliminal processing of names (Huang & Murnighan, 2010) and from research into unconscious processing of faces (Todorov, Pakrashi, & Oosterhof, 2009), showing evidence that trust evaluations can be swift and take as little as 100 ms to form.

Both initial trust and swift trust models align with aspects of the trust antecedent framework in that both dispositional elements and knowledge elements influence the way that trust unfolds over time. As a result, antecedents to initial trust perceptions are an important aspect to consider when examining organisational experiences in which the trustor does not have prior knowledge of the organisations or people in it.

2.2.3.2 Personality and trust

Personality characteristics are important in social exchange relationships but personality and social exchange predictors have until recently not been considered together in a unified fashion (Kamdar & Van Dyne, 2007, p. 1286). Over the last decade, there has been a growing body of work interested in personality and social exchange with a predominant focus on leader member exchange and team member exchange relationships. Nevertheless, a few studies have considered propensity to trust as a

predictor and antecedent to social exchange outcomes (Bianchi & Brockner, 2012; Colquitt et al., 2006).

Propensity to trust is not a universally used term; other terms include generalized trust (Rotter, 1967) or dispositional trust (McKnight, Kacmar, & Choudhury, 2004). To make matters worse the term 'trust' is sometimes used to refer to propensity to trust, making it altogether more difficult to identify relevant articles in the literature. For the purposes of clarity, the term propensity to trust will be used here regardless of the terms used by others that describe the same construct.

The idea that trusting others is driven by aspects of personality has been in circulation since at least the 1950s, starting with therapeutic concerns and work of Erikson (1950). Erikson viewed an ability to trust as dependent on resolution of the earliest developmental stage (basic trust vs basic mistrust), which lay the foundations for a healthy personality system. From this perspective trust is synonymous with confidence, the absence of which produces anxiety; resolution of this stage determines subsequent orientation towards trusting others. Early personality theorists who became interested in trust and personality departed from the therapeutic notions and developmental assumptions about trust. For example, Rotter (1967) defines a capacity for trust as based on

... an expectancy held by an individual or a group that the word or promise, verbal or written statement of another individual or group can be relied upon (Rotter, 1967, p. 651).

Wrightsman (1964) was interested in attitudes about other people's behaviour as part of a system of beliefs about human nature. He defines trust attitudes as

...the extent to which people are seen as honest, moral and reliable. (Wrightsman, 1964, p. 744)

Since then there have been a variety of definitions. For example, Chen & Barnes (2007) summarize a variety of conceptions of propensity to trust as follows:

...a general tendency or inclination in which people show faith or belief in humanity and adopt a trusting stance toward others (Chen & Barnes, 2007, p. 24).

Connell and colleagues paraphrase Kramer (1999), and describe propensity to trust as

...an individual's inclination to believe that others will be prepared to act in the trustor's best interests (Connell, Ferres, & Travaglione, 2003, p. 570).

Propensity to trust is concerned with a readiness for accepting, expecting or believing certain things about trust situations that precedes a willingness to be vulnerable and judgements of other people's trustworthiness (Mayer et al., 1995). Although there are specific aspects to any trust situation, often these are not known, for example at the beginning of relationships. In the absence of such information propensity to trust functions to provide individuals with a means for evaluating the situation, even when they have little or no prior experience in a setting or the people within it (cf. Rotter, 1980, p. 2).

Viewed as an aspect of personality, propensity to trust should be considered as a stable characteristic, rather than situation specific (Mayer et al., 1995, p. 716). The predominant view is that propensity to trust is a personality trait influencing a person's general willingness to trust and take risks (Costa & McCrae, 1992; Evans & Revelle, 2008; Farris, Senner, & Butterfield, 1973; Gillespie, 2003; Goldberg, 1999). Propensity to trust

includes general attitudes and values required to form trusting relationships with others, and an acceptance of vulnerability, until experience shows otherwise (Stack, 1978).

Revisiting the multi-level conception of trust (Fulmer & Gelfand, 2013; for discussion see also chapter 2) most work on propensity to trust has assumed that general trust beliefs about people are generalizable to organizations. As will be discussed in chapter 4, the content of propensity-to-trust measures is important in considering whether or not there is linkage between a general faith in people and a generalization of it to the behaviours of institutions. With the exception of Rotter (1967), definitions seem to be more about trusting people, but one could argue they might also apply to groups and organizations.

2.2.3.2.1 Propensity to trust as an antecedent

There is consistent support for the idea that propensity to trust operates as an antecedent in trust situations. Colquitt, Scott & Lepine (2007) carried out a meta-analysis looking at the relationship between propensity to trust, trustworthiness and trust. Similarly to Mayer et al. (1995) and Gill, Boies, Finegan, & McNally (2005) they concluded that propensity to trust should be regarded as an antecedent to trust and to the processes involved in generating trustworthiness perceptions (e.g. ability, benevolence, integrity). Furthermore, propensity to trust appears to act directly and independently of trustworthiness information on outcomes and thus, depending on trusting stance, some individuals are less affected by information relating to salient but unfavourable trustee cues, are less likely to become sceptical, regardless of the amount of information to the contrary, and are able to make the cognitive leap required for trust based on little else than their general tendency to trust (Searle et al., 2011).

When viewed as a variable in exchange, propensity to trust appears to lead to fairness perceptions (procedural and interactional) which also mediate the relationship between propensity to trust and organisational attraction and organisational commitment (Bianchi & Brockner, 2012). This finding is consistent with models of initial trust (McKnight et al., 1998) in which propensity to trust is an antecedent to trust in new relationships.

2.2.3.2.2 Propensity to trust as an informational filter

Propensity to trust could be viewed as a filter of information (Govier, 1994; Searle, Den Hartog et al., 2011) with those higher in propensity to trust filtering out negative, counter-indicative information and thereby becoming more resilient against breaches in trust and justice. In line with this idea, Colquitt, Scott, Judge & Shaw's (2006) study of justice perceptions tested the hypotheses that propensity to trust moderates the effects of justice on both task performance and counterproductive behaviour, such that the effect of justice are more pronounced depending on the individuals' level of propensity to trust. Their findings were generally in the predicted direction, showing that individuals with high propensity to trust had higher performance in low justice situation, although this just failed to reach acceptable levels of significance. When propensity to trust was high, there appeared to be a significant, though not predicted, increase in counterproductive behaviour under low interpersonal justice conditions. Colquitt et al. (2006) conclude that such conflicting and unexpected findings may result from differences in the way that high and low trusting individuals view organisational events such as justice; depending on the justice conditions in an organization, having high propensity to trust makes individuals more sensitive to justice violations but in ways that suggest a more complex state of affairs.

One possibility is that increases in counterproductive behaviour in high trusting individuals are a means of regulating the perceived imbalances arising from their perceived high performance in the task. Some support for this idea comes from equity theory (Adams, 1965) and work on employee theft. Theft appears to be related to perceived inequities in input and output and dependent on the explanation for inequity provided by employers for the injustice (Greenberg, 1990a). However, why individuals with high propensity to trust would feel a greater need to compensate for perceived inequity under low justice conditions is not clear. Within a causal reasoning perspective (Martinko, Gundlach, & Douglas, 2002), perception of justice events may affect the attributions underlining task performance and counterproductive behaviour. There is little data specifically on how propensity to trust affects attributions in justice violations. However, one might speculate, that propensity to trust affects the perception of the disequilibrium that is caused by injustice. Those with high propensity to trust may have a higher general expectation of reciprocity in exchange situations, and when this is violated will be more likely to engage in counterproductive behaviour to correct the imbalance. Clearly this would be an area for further research though beyond the scope of this present research.

Conflicting findings might imply that there are still unanswered questions on how propensity to trust filters information. Furthermore, the question of why it sometimes appears not to do this is still unresolved. However, it would appear that there is at least some argument that high and low propensity to trust can render individuals more sensitive to the effects of (in) justice. Therefore future research should explore how propensity to trust operates in justice situations in different contexts.

2.2.3.2.3 Propensity to trust in initial trust

Initial trust occurs at the beginning of a relationship between individuals and organizations (see section 2.2.3.1). Propensity to trust acts as a baseline from which subsequent trust processes and decisions originate. Trust at the beginning of an interaction is therefore strongly influenced by the starting position or assumptions that a high level of propensity to trust implies. In recruitment contexts this is important because the effects of breaches including injustice during selection may be less deleterious in applicants high in propensity to trust than one might otherwise expect. Differences in propensity to trust may therefore provide possible explanation for why applicants differ in their reactions to breaches in trust and justice during recruitment and selection.

2.2.3.2.4 Work on propensity to trust in this thesis

There is little previous research looking at propensity to trust in recruitment and selection. Understanding how propensity to trust operates in recruitment contexts has the potential to contribute to theory, specifically on the role of propensity to trust in early exchange relationships. Furthermore trust has been defined as a willingness to be vulnerable based on confident expectations, yet there is little work on how trust and confidence are related in modulating willingness to become vulnerable. This makes studies of recruitment and selection a potentially useful arena in which to study their relationship. A set of hypotheses regarding propensity to trust in recruitment and selection context will be given further below after discussion of recruitment and selection trust to avoid a lack of coherence for the remainder of Part A. Subsidiary research questions on propensity to trust relating to the content and quality of measures of propensity to trust (please refer to section 1.3.1 for an overview) were developed in response to pilot data. Chapter 4 provides an examination of propensity-to-trust scales, together with the relevant hypotheses. As there have previously not been any systematic

reviews of measures of propensity to trust, the research presented in chapter 4 to 6 contributes to understanding methodological assumptions stemming from the use of propensity-to-trust scales and has implications for studying recruitment contexts (covered in chapter 7 to 9).

2.2.3.3 Third party trust and reputation

Kramer (1999) argues that trust can be considered as a function of an *interactional history* shared between parties during social exchange. However, in addition to trustor and trustee interactions, trust situations often involve third parties (Burt & Knez, 1995) who can act as disseminators of information regarding other people's or organisations' trustworthiness. Examples of third-party trust can be found in word-of-mouth, gossip, and rumours disseminated by others, or in the role of go-betweens in new relationships (Uzzi, 1997). For example in decisions for hiring management consultants, experience and competence are considered in the context of their reputation within their respective professional networks (Glückler & Armbrüster, 2003). Judging others as trustworthy may also depend on extensions of trust via third parties whereby the presence of a trustworthy professional extends trust to a junior professional, for example in the relationship between patients, nurse educators and student nurses (Wilson & Patent, 2011).

Although the purpose of third-party trust is to bridge structural holes (disconnections between actors and nodes in a network) and assemble information (Burt, 2002), it also has relational elements (e.g. tie strength; Burt & Knez, 1995; Van Hove & Lievens, 2009). When considering third parties and how people use third-party sources, for example in extended trust, cognitive and affective processes are capable of considerable mental gymnastics. For example, the study reported by Wilson & Patent

(2011) provided evidence that showed practice educators relying on projections of their own family being patients under the care of their students, and inferring whether or not the student was competent to practice. As recruitment research shows (see Part B), third-party information is clearly important in recruitment and selection and will be looked at again in the course of this thesis.

2.2.3.4 Trust and Justice

Organisational justice is one of the most popular and active areas in organisational behaviour research. As a concept within a social exchange framework it is strongly related to trust. However, the relationship between trust research and justice research is not an easy one, and is only recently that justice and trust are being more closely investigated together (Colquitt & Mueller, 2008; Colquitt & Rodell, 2011). Justice research in itself is a huge area and will be discussed further as it pertains to selection and recruitment in section 2.3.3.1 in this chapter. This present section considers the more general ideas about justice and trust.

2.2.3.4.1 What is justice?

The concept of justice and fairness are often treated in synonymous fashion, although at a deeper conceptual level organisational justice deals more specifically with *perception of fairness* in the workplace (Folger & Cropanzano, 1998; Greenberg & Tyler, 1987). The origin of this interest stems from work on social exchange and has been adopted as one of the most significant paradigms in organisational psychology. Justice theories broadly divide into theories covering perception of content (e.g. distributive justice) and those focussing on perception of process and procedural aspects (Greenberg, 1990b). A further justice type can be found in interactional justice (Bies & Moag, 1986), of which there are two subtypes, interpersonal and informational justice (Greenberg &

Cropanzano, 1993). A useful and convenient summary of the different types of justice is shown in table 2.3 below.

Table 2.3

Types of justice and their definitions

Justice form	definition
Distributive justice	Perception of fairness of decision-making outcomes, e.g. the way resources are distributed between individuals (Adams, 1965)
Procedural justice	Perception of the degree of fairness of the processes involved in decision-making e.g. dispute resolution and resource allocation (Levanthal, 1980)
Interactional justice	Interpersonal justice Degree of respect and treatment during decision-making procedures (Colquitt, Conlon, Wesson, Porter, & Ng, 2001)
	Informational justice Degree of justification and truthfulness during decision-making procedures (Colquitt, Conlon, Wesson, Porter, & Ng, 2001)

Note: Interpersonal justice and informational justice are two subtypes comprising interactional justice (Greenberg & Cropanzano, 1993)

Reviews of justice theories and detailed findings can be found in a variety of sources (Colquitt & Greenberg, 2001; Greenberg & Colquitt, 2013). This chapter will now concern itself further with justice and trust.

2.2.3.4.2 Relationship between justice and trust

The relationship between justice and trust is not an easy one to disentangle.

Lewicki, Wiethoof & Tomlinson (2005) point out that justice researchers have historically taken one of three positions as regards trust:

1. Trust is viewed as an outcome to justice,
2. Trust is viewed as an antecedent to justice or
3. Trust and justice are viewed as intertwined and co-developing.

They recommend that justice researchers should take more consideration of the richness of the trust construct as this has the potential to provide explanations for problematic findings (e.g. procedural - distributive justice moderation: Brockner & Wiesenfeld, 1996). They identify a number of problems with research on trust and justice mostly stemming from researchers employing poorly defined constructs and weak measures of trust. Furthermore, they argue there is a lack of conceptual and measurement differentiation, with elements of justice also being defined as elements of trust, and vice versa. For example, ethicality and consistency which can be viewed as aspects of justice are also aspects of Mayer et al.'s concept of integrity. In addition, trust can be developed as a result of fairness, but also has other antecedents, and therefore the idea that trust and justice are synonymous does not stand scrutiny. On the other side, trust researchers appear to have paid spurious attention to justice, at times giving no attention to justice at all, even while invoking ideas and concepts that are clearly justice related (Lewicki, Wiethoof & Tomlinson, 2005, p. 255).

Colquitt & Mueller (2008) agree with Lewicki et al.'s analysis and argue that a disentanglement of the linkage between trust and justice is difficult, not least because measurement of justice and trust are often confounded. They recommend that researchers should examine the justice and trust linkage through the Mayer et al. (1995) 'lens' in order to reduce the overlap in measurement content. In line with these recommendations, Colquitt & Rodell (2011) explored the relationship between trust and justice more directly, by studying theory-driven measures of trust, longitudinally, looking at employee's trust in their supervisors. They examined the strength of relationships between four different forms of justice (distributive, procedural, Interpersonal and informational), perceptions of ABI (ability, benevolence, and integrity) and willingness to be vulnerable within the trust antecedents framework. They sampled the variables at two

points in time, thereby providing a strong causal framework for testing their hypotheses about pathways between justice and trust variables.

Colquitt & Rodell's (2011) suggests that when trust is operationalized as willingness to be vulnerable, and when ability, benevolence and integrity are controlled, only informational justice (the behaviour of supervisors explaining decisions to employees) leads to trust in supervisors. Explaining the lack of evidence for paths from procedural, distributive and interpersonal forms of justice to trust, they point towards the potential conflation of trust measures with justice concepts and vice versa. Their evidence suggests that justice influences subsequent perceptions of trustworthiness, for example interpersonal justice at time 1 predicts benevolence and integrity perceptions at time 2.

Recently researchers have linked trust and justice with reference to neuropsychological levels of processing arguing for trust to have primacy within the trust-justice relationship (Holtz, 2013). Based on observation that trustworthiness appears to be driven by automatic neurological processes, Holtz proposes that trust variables occur earlier in the process, such that justice perceptions are dependent on trustworthiness perceptions and evaluations, and on propensity to trust, both of which act as antecedents to justice. Although the argument for neuropsychological primacy given is persuasive, there are questions that remain unanswered.

Firstly, the evidence for neuropsychological bases of rapid processing of trustworthiness information is based mostly on interpersonal perception of faces, rather than perception of people, situations and events. Furthermore, this conception does not seem to focus on the evaluation of situational vulnerabilities implicit in any given situation and seems to ignore the fact that trust is part of an interactional history. Secondly, the trust primacy model seems to fit well with initial trust (see section 2.2.3.1

on temporal aspects of trust) but fails to capture situations where trustors and trustee have already passed the initial trust threshold as they would in later stages of recruitment and selection contexts. It is possible that a violation of justice after an initial encounter decreases the favourability of perceptions of organisational trustworthiness and so explains why trust erodes over time with recurring breaches. The initial level of trust may act as a baseline from which trust declines. Propensity to trust may also be an additional factor in helping to understand why high trust levels might be sustained for longer, even when there have been violations of justice.

The idea of trust and justice co-developing implies that both justice and trust can be thought of as having primacy, depending on the situation and stage in the relationship. People may be more resilient against justice violations because of high trust in the violator, but trust in the violator may also decline as a result of recurrent justice violations if these present breaches in trust expectations.

Colquitt et al. (2013) explored recent developments in justice theory, noting a growth of studies that adopted exchange- and affect-theoretical lenses to organisational justice. Using meta-analysis they analysed studies to investigate the direct, indirect and moderating effects of justice as seen through these perspectives. Within the exchange-theoretical view trust is positioned as a quality of the social exchange that mediates the effects of justice on organisational outcomes including citizenship behaviour, task performance and counterproductive behaviour. Their data support partial mediation of some justice outcome relationships via exchange quality (e.g. trust, commitment, leader member exchange and perceived organisational support). However, they found full mediation of justice outcome relationships by state affect (positive vs. negative), suggesting that both social exchange *and* affect should be considered in explaining the effects of justice in organisations. It should be noted that Colquitt et al.'s focus appears to

have been on studies which examined exchange relationships *after* employees had been selected, rather than considering elements of exchange *during* the recruitment and selection context. As the studies used in their analysis involve post-entry outcomes, it is difficult to assess how their results might generalise to recruitment selection settings.

Evidence from justice research points at the mediating and moderating roles of trust variables (Aryee et al., 2002; Colquitt et al., 2006, 2013). On the other hand there has been little engagement in the justice literature on trust with some concepts important in trust research. Work clearly is moving in the direction of investigating affective and cognitive elements of trust and testing how justice theories relate to important models in trust (e.g. Colquitt et al. 2013) in different contexts. On the other hand there are still some concepts that have been neglected in such studies (for example trust and distrust, propensity to trust). Work that explores such concepts can therefore make a contribution to the development of theory linking justice and trust together. Framed in a recruitment and selection context the research question here is how trust concepts are linked to variants of justice.

2.3 Part B Why trust and recruitment/selection?

Broadly framed the question in the present research asks what the role of organisational trust is in recruitment and selection (Please refer to section 1.3). The main applied concern of the research question lies in attracting diverse applicants, and then retaining those best suited to the job. The reactions of applicants in this process have been the focus of a growing literature (Hausknecht, 2013; Hausknecht et al., 2004) showing that depending on their reactions to selection and recruitment events, there is a risk that suitable applicants may decide to leave the selection pool, and therefore fail to be selected and join competitors instead (Searle & Billsberry, 2011). This thesis is

concerned specifically with trust as a variable that is assumed to contribute to recruitment and selection impact. At a broader level and framed within an attraction selection and attrition perspective (Schneider, 1987) this work relates to understanding if and how trust (and distrust) can contribute to problems with applicant attraction and how it might help reduce selection impact and resulting attrition from the selection process.

However, the scope of this research is wider than the applied context might suggest. Recruitment and selection are a context for studying social exchange, specifically at the beginning of an exchange relationship. Due to the inherent uncertainty of outcomes, exchange in this context is actual, based on encounters between applicants and representatives of the employer, and anticipatory, based on the condition of applicants being offered a job. The anticipatory aspect for the applicant refers in part to job preview (Wanous, 1973) and entails applicants gathering of information relevant to potential future work characteristics, relationships and identities (Strauss, Griffin, & Parker, 2012) while engaged in recruitment and selection activities. Risk is also inherent in this process due to the multiplicity of threats to identity, security and the inability of applicants to effectively control these (Searle & Billsberry, 2011). Finally, applicants depend on organisations for interviews and opportunities to be selected, and organisations depend on applicants to make themselves available to the selection process. Recruitment and selection therefore meets all the requirements for trust to be a salient issue – uncertainty of the outcomes of recruitment and selection, the vulnerabilities that arise from accepting a job offer in a new employer and interdependence (This is discussed further below in section 2.3.3.2).

The following sections review the literature relevant to recruitment and applicant trust, and identify theoretical departures providing research questions and hypotheses

for this thesis. I will first define terms of recruitment and selection and then review work on applicant attraction to date. This is followed by a closer look at reactions during the selection process with a specific emphasis on justice and its relationship with trust. Finally, at the end of this review I will make connections between selection/recruitment phases and trust focussing specifically on what bases trust can be built on in this context.

2.3.1 Recruitment and attraction

The literature on recruitment and applicant attraction is vast and sections 2.3.1.1 and 2.3.1.2 serve as a short overview of definitions and issues in selection research. First, a general definition of recruitment and selection is provided, followed by a brief review of literature on attraction and recruitment outcomes.

2.3.1.1 Definitions of recruitment and selection

Recruitment and selection are terms that are sometimes used interchangeably. For clarity, recruitment is defined as a technique for attracting applicants to organisations and influencing their subsequent job choices (Rynes, Bretz, & Gerhart, 1991). As Rynes (1989) states: recruitment...

'...encompass[es] all organizational practices and decisions that affect either the number, or types, of individuals that are willing to apply for, or to accept, a given vacancy' (p. 46).

An important idea in the recruitment literature is the idea that recruitment occurs in stages (Barber, 1998), commencing with organisations generating applicants (stage 1), maintaining their status (stage 2) and then influencing their decision to accept job offer (job choice, stage 3). In contrast, selection relates to the process of evaluating applicants' suitability for future employment, using different selection methods (Bernthal, 2002; Rynes et al., 1980).

Applicants select organisations as well as organisations selecting applicants (Herriot, 2004; Rynes, 1993). Thus, rather than viewing recruitment as a passive process it should be regarded as dynamic and interactive and as situated in a social process (Derous & De Witte, 2001). It is dynamic because applicants' views of the organisation and their application can change over time as a result of recruitment interactions. In the interactional sense recruitment is like a classic exchange game in which both the applicant and organisation exchange information and determine whether each is suitable for the other (Searle & Billsberry, 2011). It is this dynamism which offers an opportunity to research trust as a process and understanding the relationship with its correlates (for example justice) by considering their role and interaction in dynamic multi-stage contexts (See also research question B2). This chapter will return to applicant perspectives further below in the chapter. The following section is focussed principally on outlining research on outcomes of recruitment, the main predictors which drive them and the overarching theoretical perspectives underpinning work in this area.

2.3.1.2 Recruitment outcomes

From a functional point of view recruitment and selection outcomes can be defined in several ways. From an organisation's perspective the decision to hire an applicant and whether or not said applicant accepts an offer and subsequently fulfils the expectations are a critical concern. Before this can take place, a key element of recruitment is attraction which impacts on all three stages of Barber's (1998) model. There are numerous attraction studies that have explored predictors of recruitment outcomes (Cable & Turban, 2001; Dineen, Ash, & Noe, 2002; Ehrhart & Ziegert, 2005; Highhouse, Stierwalt, Bachiochi, Elder, & Fisher, 1999; Turban & Keon, 1993; e.g. Turban & Cable, 2003; Turban & Dougherty, 1992; Turban & Eyring, 1993; Turban & Greening, 1997). Meta-analytic reviews (Chapman, Uggerslev, Carroll, Piasentin, & Jones, 2005;

Uggerslev et al., 2012) have also helped to provide much needed clarity. Table 2.4 below has been organised to summarise the most important recruitment outcomes and predictors based on the above work.

Table 2.4

Predictors and outcomes in recruitment research

Predictors	Outcomes
Job characteristics	Intention to pursue job
Organisational characteristics	Job-organisation attraction
Recruiter characteristics	Acceptance intention
Perceptions of the recruitment process	Actual job choice
Perceived fit	Other applicant reactions
Perceived alternatives	
Hiring expectancies	

Based on Chapman et al. (2005) and Uggerslev et al. (2012)

Within this work a variety of theoretical perspectives are discernible. Earlier models have sought to understand what job and organisational characteristics were important to applicants (Glueck, 1974; Gutteridge & Ullman, 1973). However, applications of theoretical frameworks such as expectancy value theory (Vroom, 1964) highlighted that applicants' perceptions of the job and organisation characteristics are shaped by elements of the recruitment process: under conditions of perceived uncertainty regarding the instrumentalities and valences, recruitment activities provide personally salient signals concerning unknown organisational attributes (Rynes & Dunnette, 1989; Rynes et al., 1980). It is because of this uncertainty that recruitment is clearly an arena for trust, specifically where signals convey information to applicants about the level of vulnerability inherent in the process.

In line with current theory, there are two overarching and compatible theoretical distinctions in attraction research: *signalling* theories and *social identity* theories (Celani & Singh, 2011). Based on the seminal work of Spence (1973) signalling approaches emphasise processes of information scanning and inference regarding characteristics of the organisation, the job or role and are concerned with the way in which applicants receive, process and respond to signals stemming from the recruitment process or external sources. Signalling approaches include job marketing and branding perspectives (Cable & Turban, 2003; Lievens & Highhouse, 2003) that emphasise reputation and organisational image (e.g. Gatewood, Gowan, & Lautenschlager, 1993). Social identity perspectives in recruitment include work on Person-Organisation Fit and value congruence during recruitment (Billsberry, 2007, 2008; Cable & Judge, 1996) and organisational identification (Lievens, Van Hoye, & Anseel, 2007). Integrating such widely different approaches Celani & Singh (2011) outline the link between the two as follows:

Applicants realise their organisational identities or develop the perception that they share an identity or similar characteristic with the organisation through the interpretation of organisation level and individual level recruitment signals (Celani & Singh, 2011, p. 230).

Both signalling and social identity perspectives thus afford useful and compatible theoretical frameworks which have so far received scant attention in relation to trust in recruitment. Looking at an uncertainty reduction perspective it is evident that identity signals provide ways of reducing uncertainty and thereby increase trust. What appears to be lacking from this picture is how applicants evaluate the information they receive in relation to trust, and thus what enables them to make the conceptual leaps required in situations that remain inherently uncertain.

2.3.2 Applicant reactions

One important trend in the last 20 years has been a growing focus on applicant reactions to recruitment and selection as (often unintended) outcomes of the recruitment process (Anderson, 2011; Gilliland, 1993; for a review see Hausknecht, 2013; Turban & Greening, 1997; Van Hove & Lievens, 2007). When considering applicant reactions during recruitment one is not only considering the activities traditionally defined as recruitment, but also the selection methods which applicants encounter during the stages of the recruitment process. This section aims to review the impact of selection processes on applicants with reference to trust, asking the question where trust and its antecedents appear within the process.

Previous research shows that applicants react to selection processes and that they have preferences for selection events, which ultimately determine how far they progress through the selection process (Gilliland, 1993; Hausknecht et al., 2004; Hülshager & Anderson, 2009). A plethora of studies has investigated applicant reactions to recruitment and selection, and these cannot be reviewed here in full. However, such literature raises questions about the efficacy of recruitment and selection methods, since methods which cause negative impact on applicants affect performance directly and bias the outcome of recruitment in favour of applicants who are less impacted (e.g. cognitive and perceptual admissions tests in recruitment of medical students; Lievens & Coetsier, 2002). Impacts of selection need not necessarily stem from direct negative experiences with the organisation process itself, but could be anticipatory or perceived, rather than actual (Anderson, 2011; Gilliland, 1993; Shapiro & Kirkman, 2001). In the case of technological innovations in recruitment, effects of such 'progress' are often unknown in advance, and the intention of recruiters to provide ease of use and accessibility using new technology may create unforeseen issues for applicants (e.g. recruitment websites that are easy to

use by people with IT skills and access to IT create barriers for people with little or no access; Anderson, 2011; Searle, 2006) leading to marginalisation of disadvantaged groups.

The impact of recruitment and selection is often viewed in negative terms due to its perceived effects on applicant performance, its discriminatory nature and restriction of diversity. However, selection and recruitment may also have positive outcomes, for example, educational value (Patterson & Ferguson, 2010), socialisation (Anderson, 2001) and experience and feedback leading to more realistic perception of what employers are looking for (McKeown & Lindorff, 2011). Because there may be both positive and negative impacts on applicants some interesting questions for trust researchers emerge: Which selection experiences increase or decrease perceptions of organisational trustworthiness? How are characteristics of trustworthiness (e.g. ABI model referents) related to selection experiences and experiences of impact? For example, one might consider that when selection processes signal organisational competence, benevolence, integrity and predictability, uncertainty is reduced, leading to an increase in attraction, job acceptance and reduced impact. Reconsidering meta-analytic evidence, applicant trust and perception of trustworthiness may be created or diminished across different stages, depending on how applicants experience impact effects on their vulnerabilities.

Considering Hausknecht et al.'s (2004) observations of applicant reactions with a trust lens, there are several reasons why applicant reactions to both recruitment and selection activities are important to increasing understanding of trust in this context. Firstly, selection processes that have negative impact may adversely influence applicants' perception of the organisation's trustworthiness leading to lower trust and higher distrust and resulting in applicants dropping out. Furthermore, applicants who drop out and refuse job offers may end up working for competitors thereby undermining the competitiveness of the organisation. Secondly, spill-over of distrust from one applicant's

experience to others can take several forms: applicants become third-party sources for other applicants resulting in dissuading other potential applicants from applying or experience of impact during previous selection process may spill-over into the current process. Increased risk of litigation caused by adverse experience can potentially spill-over into other areas of the organisation, and finally applicants may refuse to accept services offered by the organisation whose trustworthiness as a brand has become damaged as a result of poor applicant experience.

2.3.3 Towards models of trust in selection and recruitment

2.3.3.1 Justice and trust in recruitment and selection

Understanding trust in selection without reference to justice would misrepresent the tensions existing in the field and therefore this section will begin by discussing how justice impacts on attraction, leading into a closer look at models of trust in this context.

A large body of work on the impact of selection and organisational justice suggests that applicant reactions are attributable to justice effects (Bauer, Maertz Jr, Dolen, & Campion, 1998; Bauer et al., 2001; Maertz et al., 2004; Truxillo, Bauer, Campion, & Paronto, 2002). Organisational justice has been found to be a fairly consistent predictor of attraction, fairness perceptions, performance in the selection procedures, recommendation intentions, job offer acceptance, and litigation risk amongst others (Anderson, 2011; Hausknecht et al., 2004; Maertz et al., 2004). Justice impacts can occur at any stage of the recruitment and selection process (Bauer et al., 2001). Based on previous work, justice in selection seems to stem from two main sources: structural and social elements of the selection process, as summarised in table 2.5 below.

As was discussed previously, trust has been treated as somewhat superfluous in justice research owing to conflation of concepts (Colquitt & Mueller, 2008); selection

Table 2.5

Structural and social sources of justice perceptions during selection

Structural	Social
Job-relatedness	Consistency of applicant treatment
Opportunities for performing in selection process	Openness and transparency of selection administration
Information available prior to the process	General treatment throughout different stages of the process
Opportunity to review results and feedback,	Communication and opportunity to ask questions
Essential technical elements which provide insights into fairness of process	Face validity/and propriety of the questions.

Source: Bauer et al. (2001)

justice research is no exception. Recently justice theorists have begun to disentangle justice and trust in this context. For example, Celani et al. (2008) proposed a theoretical model of applicant reactions. In this model experience of justice during the selection process is dependent on initial trust prior to selection so that trust operates as a mechanism for setting a baseline for justice perceptions during the selection process. Furthermore they propose that initial trust acts as a moderator of the relationship between justice and reaction outcomes (e.g. attitudes and behavioural outcomes). While applicants interact with the organisation they are forming beliefs of the trustworthiness of the organisation. The Celani et al. (2008) model posits that the effect of justice on post-selection attitudes and behaviour is mediated by perceptions of trustworthiness formed as a consequence of the selection process.

The idea that the path to justice is mediated by trustworthiness is somewhat supported by recent work in a selection context (Walker et al., 2013). They sampled job seekers using longitudinal design. For example in their first study, at time 1 they provided information on a number of organisations and asked applicants to apply to them.

Measures taken at this stage were attraction and demographic items. At stage 2 they looked at applicants' interactions with the prospective employers and measured their interpersonal and informational justice perceptions. Finally at stage 3 they assessed positive relational certainty, organisational attractiveness and outcome of their application. Their second study was an experimental 2 stage design looking into the effect of informational manipulations on organisational justice and attraction. Participants were asked to complete an application pack and were then 'contacted' by a fictional organisation using correspondence in which salient information was manipulated in order to simulate different justice conditions. Finally, their third study operated similarly to study 1 except it asked applicants to focus on only one organisation and the interactions were monitored for a longer period of time. In summary they found that justice events occurring during interactions between applicants and recruiters were less salient when there was information about positive employee relations preceding their interaction. This implies that recruitment and selection interactions may be less important in reducing uncertainty. Instead knowledge of an organisation's practices of employee relations, in other words, future exchanges, appear to be stronger influences on attraction.

Moreover, Walker et al. (2013) found that the relationship between changes in interpersonal and informational justice and changes in organisational attractiveness during the recruitment process were mediated by changes in positive relational certainty. This supports the view that justice provides salient cues, which reduce uncertainty and thereby facilitate attraction. Walker et al. did not operationalise trust measures (e.g. propensity to trust or trustworthiness) but their use of positive certainty points in the direction of a trust process, notably trustworthiness perceptions. Thus, Walker et al.'s work partially supports the proposed process in Celani's model which assigns trustworthiness a mediating role. Further work that explicitly measures trustworthiness

perceptions in this context is therefore needed to clarify the role of trustworthiness perceptions and other trust variables.

In addition to other work reviewed earlier in section 2.2.3.4 (Aryee et al., 2002; Colquitt et al., 2006; Colquitt et al., 2013) a number of mediational hypotheses about trust in recruitment and selection processes can be formulated. The idea of trust and justice co-developing (see review in section 2.2.3.4.2 above) suggests that in a dynamic process, such as recruitment and selection, trust and justice may both be outcomes, as well as antecedents of each other, depending on the stage of the recruitment process and the variables considered.

Klotz, Motta, Veiga, Buckley, & Gavin (2013) have recently outlined some directions for research into how trustworthiness perceptions are formed during recruitment and selection. They conclude that research should concentrate on understanding the influences on trustworthiness in this context and build on previous work in this area (as the present review has done). Secondly they mark an important role of propensity to trust as an antecedent to trustworthiness and suggest its role in influencing trustworthiness perceptions is important in recruitment and selection contexts. Kausel & Slaughter (2011) recently provided some empirical evidence for interaction effects between organisational trustworthiness and propensity to trust in organisational attraction. Although not studied in a selection context their findings suggest that the role of organisational trustworthiness in predicting organisational attractiveness differs depending on the level of propensity to trust. This would point to propensity to trust acting as a moderator variable. As previous work on justice in selection has shown (cf. Walker et al., 2013) discerning different stages of recruitment

and selection is also important for understanding how trust and justice might be related both within and between stages of the recruitment process.

A number of hypotheses regarding the direct and indirect (mediational) effects arise from consideration of the above literature (See also research questions B1-B3, section 1.3.2. The hypotheses and their corresponding path diagrams are provided separately in chapter 8). Firstly in order to test mediation one has to show significant relationship between the variables in a mediation model. Hence hypothesis 1 deals with this set of relationships.

H1 There will be positive relationships between propensity to trust, perceived justice and perceived trustworthiness in recruitment and selection contexts. There will be significant relationships between justice, trust variables and selection outcomes.

Building on the work of Celani et al. (2008) and Walker et al. (2013) hypothesis 2 addresses the mediation itself. Once relationships between variables have been shown to exist the following hypothesis assesses the significance of all the paths within a mediation model (Baron & Kenny, 1986; Hayes, 2009).

H2 The relationship between perceived justice and recruitment outcomes will be mediated by trustworthiness perceptions.

Previous work has highlighted the role of propensity to trust as an antecedent to trust, trustworthiness and justice perceptions (Colquitt et al., 2007; Kausel & Slaughter, 2011; Mayer et al., 1995) with some work indicating a role of propensity to trust as an antecedent to organisational attraction (Bianchi & Brockner, 2012) and its role in initial trust (McKnight et al., 1998) during recruitment and selection and attraction (Celani et al., 2008; Kausel & Slaughter, 2011). Therefore,

H3 Propensity to trust is an antecedent to attraction, trustworthiness perceptions and perceived justice in recruitment and selection.

On the other hand an alternative role for propensity to trust is as a moderator of justice-outcome relationships (Celani et al., 2008; Colquitt et al., 2006) leading to the following hypothesis:

H4 Propensity to trust acts as a moderator of the relationship between perceived justice and recruitment and selection outcomes.

2.3.3.2 Revisiting the case for trust in in recruitment and selection: vulnerability, uncertainty and interdependence

Work on trust in selection has mostly been driven by the agendas of justice researchers. Although uncertainty reduction perspectives appear to be present within these conceptions, other elements of trust (e.g. risk and vulnerability) are not typically found in this literature. Furthermore, the conception of trust as expectational is also typically not implemented in the current literature on justice and trust in selection. Since integration of trust concepts is not representative of work that has been done in the field it would be inaccurate to refer to the literature on justice and selection which contains elements of trust as a literature on trust in recruitment and selection. On the other hand previous work on justice and in recruitment and selection provides powerful frameworks (exchange, signalling and social identity) that are important in understanding trust within this context. Conversely research on trust in this context can support developments in theory in all of the above frameworks and paradigms, referred to above.

The first model of trust in selection and recruitment that brings these areas together and is not just an elaboration of selection justice models can be found in Searle & Billsberry (2011). They present a model which is more firmly anchored in the social

identity and signalling approaches of recruitment and amplifies the connections with uncertainty, vulnerabilities and expectational elements of trust rather than with justice. Their model posits that trust is created, maintained and diminished during the recruitment and selection process. Before entry into the organisation, applicants hold an initial perception of the trustworthiness of an employer. They contend that this is based on individual tendencies for being trusting (propensity to trust), and applicants' existing evaluations of available organisational information and reputation. In order to understand attraction one needs to consider the ways in which such information and evaluations are aggregated and related to applicant's identity and self-categorisations. For job applicants there is a great deal of informational and decisional uncertainty that cannot be removed through simply adding organisational information. Owing to constraints on information and on the controllability of risk, some uncertainty and vulnerability are likely to remain, even when applicants have a great deal of information at their disposal and are able to discern a degree of fit with an employer. Trust in this context serves to enable applicants to make a conceptual leap (Lewis & Weigert, 1985) that enables them to fit themselves to the organisation, even when there are gaps in information (Luhmann, 1979).

Searle & Billsberry (2011) define breaches of trust in the selection and recruitment process in terms of unmet expectations (e.g. incompetence of interviewers) or inconsistencies between one's own and other's values and argue that trust only becomes an issue when there is a breach (Searle & Billsberry, 2011b, p. 71). Following Bies & Tripp's (1996) framework, they distinguish between *civic order* breaches (involving violation of rules and procedures) and *identity damage breaches* (involving damage to reputation and undermining of identity of the applicant or others involved in the recruitment context). The net result of such trust breaches is a lack of congruence

between applicants' views of themselves and the organisation, resulting in applicants becoming less attracted, but also with impacts of such breaches having greater ramification in terms of damage to applicants' own reputation for example when a recruiter discloses sensitive personal information to others in the organisation or an applicant's current employer.

If one defines trust as a willingness to be vulnerable, then it follows that unless there is risk or a threat of vulnerability there is no trust required (cf. Rousseau et al., 1998). It is precisely because recruitment and selection involve risk and vulnerability with uncertain outcomes that trust is an issue in this context (Searle & Billsberry, 2011, p. 70). Viewing recruitment and selection as an exchange, the other essential ingredient for trust is *interdependence and reciprocity* between the two parties. Both vulnerability and interdependence in recruitment and selection contexts are easily demonstrated when one considers the exchange between the recruiting organisation, its staff and the applicant further. It is here that the question of applicant context (Research question B4, please refer to section 1.3.2) is raised.

2.3.3.2.1 Employer vulnerabilities and dependence

Recruiting organisations need access to applicant pools in order to identify those possessing the characteristics of interest to them. At a basic level organisations' risks include not attracting enough applicants, failing to identify the most suitable applicants and ultimately hiring the wrong person for the job. In this process recruiters are dependent on candidates to apply, to pursue the selection process and engage with the process honestly and, essentially recruiters have to place trust in applicants while assessing the degree to which such judgements can be relied on.

A great deal of previous work in selection has focussed on employer vulnerabilities arising from technical aspects of selection (e.g. faking in applicants: Barrick & Mount, 1996; Mersman & Shultz, 1998; validity of situational tests: Lievens & Coetsier, 2002; validity of integrity testing: Ones, Viswesvaran, & Schmidt, 1993; validity of selection tools: Schmidt & Hunter, 1998b; impact of surveillance, Searle, 2006). Furthermore, such research typically aims to improve the quality of processes and procedures so that recruiters can develop better strategies for managing the risks involved to identify and hire the most suitable applicants for example by aggregating selection data across dimensions rather than exercises (Schneider & Schmitt, 1992). Employers have the ability to manage and control risks in order to reduce their vulnerability relative to applicants' behaviour and characteristics. However, implementing strategies for controlling such risks can contribute to an adverse recruitment and selection experience in applicants leading to breaches in ethics and trust (cf. Cohen & Cohen, 2007 for a view on employees' perception of different levels of control and restriction).

A good example of this is the use of data-mining of social networks during recruitment and selection to identify applicant counterproductive behaviour, such as drug and alcohol abuse and other 'undesirable' life style choices (Engler & Tanoury, 2013; Smith & Kidder, 2010). Employers utilising selection tools for reducing such risks may lead applicants to develop a more negative perception of the organisation (Klotz et al., 2013) and perceive the employer as not trusting their employees. In the same example, an alternative approach, for example advertising policies on drug testing, may be more effective in controlling risks but without the negative impact. Thus the level of trust generated in applicants may be highly dependent on the systems used for controlling and managing perceived employer risks.

2.3.3.2.2. Applicant vulnerability and dependence

Applicants apply to employers for economic, social, vocational or aspirational reasons (Lopes, 2011). They depend on the recruiting organisation in order to be considered for a job vacancy, and further depend on the recruitment staff and systems in terms of how they are treated. Applicants are inherently vulnerable during recruitment and selection, due to the investment they make in participating in a recruitment and selection process (Searle & Billsberry, 2011). Examples of such vulnerabilities may include: the disappointment of not being selected after significant effort and commitment and detachment from an existing job in anticipation of being hired by a new recruiter. Furthermore, their vulnerabilities during the selection process may not be apparent to applicants (Searle & Billsberry, 2011b, pp. 70-71). Here I will consider in some further depth the idea of applicant vulnerability with reference to specific aspects relevant to applicants' trust.

Controllability

In contrast to employers, applicants may have few means of controlling the selection process (Macan, Avedon, Paese, & Smith, 1994; Schuler, 1993) and thereby are vulnerable to the actions of the recruiter. Given the aforementioned ability of employers to control their risks, this process is asymmetrical. Applicants have no control over who they interact with during the recruitment and selection process, who will assess them, or how they will be treated throughout the process. Boswell, Roehling, LePine, & Moynihan (2003) identified some ways in which employers exposed applicants to uncontrollable behaviours and events during selection (for example, quality of hotel accommodation, type of interviewer, organisation of recruitment/selection events), resulting in negative applicant experience. Several of the applicants in the aforementioned study commented that how they were treated implied a lack of care or

concern and interest in them as a person (civic order breaches in Searle & Billsberry's model, lack of dedication trust in Nooteboom's taxonomy). Research suggests applicants' experience of selection and recruitment treatment may make them want to reflect on how they might be treated subsequently in their employment if they accepted the job (Walker et al., 2013). Applying a signalling perspective, a lack of control may signal greater vulnerabilities. Their decision on their job choice in return then becomes a measure of their subsequent behavioural trust (cf. Dietz & Den Hartog, 2006), namely, how they express their willingness to accept such vulnerabilities.

Informational uncertainty

Applicants' vulnerability is predicated on the fact that they have limited access to information about the organisation to which they are applying. These limitations arise because such information may be ambiguous and because it is 'managed' by the organisation's HR process. This intensifies risk because decisions are made in a state of informational uncertainty without knowledge of the veracity of claims made about the vacancy or the organisation. On the other hand most applicants will have some knowledge of an employer prior to their application (Cable & Turban, 2001)

The problem faced by all applicants is their capacity to scan the available information and then to determine quality and content of the job role and other organisational characteristics, before making a final decision to submit an application or accept job offers. This is where social identity and signalling approaches become highly relevant (see section 2.3.1.2). For example, recent recruitment research has proposed the instrumental symbolic framework (Lievens & Highhouse, 2003; Lievens et al., 2007) to account for the way that applicants make use of recruitment information. The instrumental symbolic framework posits that applicants use both instrumental attributes (facts and information about the job role and employer), and symbolic attributes

(abstract, image and trait-based perceptions and evaluations) in order to create a representation of their prospective employer. Utilising such information results in applicants being able to infer important attributes about the organisation and helping them proceed with their decision-making. One perspective regarding trust is that such information may serve as input into the trust process (e.g. Dietz & Den Hartog, 2006) and convey to applicants that their willingness to be vulnerable is not misplaced and a confident expectation that the organisation can be relied on to act in the interest of the applicant and at least not against them.

Different applicants process information differently

How applicants utilise information may be an important issue when considering applicant gender, their experience and maturity. For example, novice applicants tend to rate job adverts more favourably than experienced applicants (Young, Rinehart, & Heneman, 1993) and are less likely to be influenced by negative information in their ratings (Meglino & Ravlin, 1997) suggesting that previous experience and exposure to a job and organisation influences applicant reactions (Beyer & Hannah, 2002). The reasons for this may be that new applicants only have access to limited instrumental information about a firm such as salary, location or superficial brand-relevant data; more richly detailed knowledge of the employer may be dependent on applicant's familiarity with an organisation, through third parties or media or other experience. Inexperienced applicants may therefore rely more on factors such as the organisation's brand image to determine job pursuit and acceptance decisions (Collins & Stevens, 2002) rather than information that reflects actual working practices in that organisation.

Certain aspects of the organisational environment such as organisational systems and culture and actual working conditions may be less salient to novice applicants, and therefore they may fail to seek out and utilise such information during their decision-

making. Furthermore, novices may be less aware of their actual vulnerabilities during selection and employment, based on their relative inexperience of poor selection, job situations (for example being in the wrong job with difficult managers) than more experienced applicants (Searle & Skinner, 2011b).

Third party information

One of the few ways in which applicants can manage their informational vulnerability in recruitment and selection is through use of third-party sources (Van Hove & Lievens, 2007). Evidence suggests that trust and use of third-party information are related. Close relationships in which individuals have emotional and social ties are likely places for identification-based and affective trust (McAllister, 1995). It is therefore not surprising that in recruitment contexts the strength of the mutual tie between applicant and third-party source is nearly as good a predictor of time spent receiving positive word-of-mouth information as the expertise of the third-party (Van Hove & Lievens, 2009).

Studies of recruitment contexts also highlight the role of third parties and trust outside of formal selection systems (Sweeney, Soutar, & Mazzarol, 2008; Van Hove & Lievens, 2007). Battu, Seaman & Zenou (2011) showed ethnic minorities use their own contact networks to compensate for the disadvantages and discrimination they face in the labour market, since they would not expect to experience it in their own networks. These networks appear to play specific roles in disseminating information via third parties, as well as providing fairer access to opportunities, when other channels are less effective and more importantly when applicants perceive little justice in the other opportunities available to them due to perceived discrimination (see also discussion further below).

This leads one to conclude that in a word-of-mouth exchange trust between the exchange parties is one of the reasons why the exchange happens in the first place. When there is informational uncertainty, or when there is a strong certainty of adverse conditions, applicants prefer to draw on third-party information from people in whom they place trust and with whom they identify, independently of the actual knowledge the source has. Sources may also afford opportunities (instrumentalities) due to their location within a social network. Based on the trust antecedents model applicants with higher propensity to trust should be expected to be more reliant on third-party sources since they would be more ready to assume that information given by a source is trustworthy. However there appears to be another side in that an experience of distrust in a selection system may prompt people to seek out third parties. The role of propensity to trust or distrust has not previously been investigated in this context and so leads to a further hypothesis:

H5 There is a relationship between propensity to trust and use of word-of-mouth/third-party information during recruitment.

Confidentiality and the recruitment and selection process

Data security concerns present additional vulnerabilities for applicants (Searle, 2006; Searle & Billsberry, 2011): The potential for breaches of confidentiality differ widely, but if they occur can compromise applicants existing and future employment situation. Need for confidentiality increases applicants' dependence on the discretion of the recruitment system and staff and if confidentiality is violated it exposes applicants to potential conflict with an existing employer, with serious repercussions regardless of whether or not an applicant is offered a job or not. There have been a number of recent breaches that bring these issues to the fore, for example data security breaches of the

Medical Training Application Service (MTAS) website in the UK in May 2007 (Fleming & Condron, 2007) and hacking of major job websites such as Monster (BBC, 2009). In situations of such breaches, and depending on the information that is disclosed, successful applicants may enter into organisations with details of their personal information becoming known to other employees, leading to a feeling of exposure, and risk of becoming a target of discrimination (e.g. information on sexual orientation, disabilities).

Discrimination

Work discrimination on the basis of gender, age, ethnicity and disability is still prevalent in Western economies and one of the places where it occurs is during recruitment and selection (Deros & De Witte, 2001). Those discriminated against may have expectations of discrimination (e.g. Schreurs, Deros, Van Hooft, Proost, & De Witte, 2009) leading to an expectation of injustice (Shapiro & Kirkman, 2001; anticipatory injustice). Furthermore, applicants may be transferring experiences and expectations from one selection process to another (Geenen et al., 2012). It is not difficult to see how applicants who expect to be treated differently perceive their chances of success as reduced and feel less attracted to the organisation and less likely to pursue the job as a result (Schreurs, Proost, Deros, & De Witte, 2008). In terms of vulnerabilities implicit in trust, investing time and effort in a selection context with the risk of being treated unfairly may discourage some to apply for jobs in the first place, when they consider the perceived likelihood of discrimination and their experience and resulting disappointment (cf. van Dijk & Zeelenberg, 2002).

The lack of successful role models within organisations is also recognised as an important obstacle to job pursuit in candidates from minority backgrounds (Kirby, Harrell, & Sloan, 2000). This could be explainable through the instrumental symbolic framework

where the presence or absence of role models may be symbolic of the recruiter's intention in relation to the applicant's minority. However, the presence of role models in organisations (e.g. black police officers) should serve to increase attraction and recruitment of underrepresented groups, by creating *exemplar trust* (Nooteboom, 2002). In some organisations (e.g. police recruitment) under- recruitment from minority populations is endemic, due to poor community relations, a lack of identification between minority group members and the organisation, and the perception that even when employed, they are not empowered to instigate change to their organisation (Hope, 2012; Megan & Holdaway, 2007). Finally, failure to signal information on the availability of role models may result in reducing their impact on those who could identify with them.

2.4 Summary

Trust is a complex, multifaceted, multilevel concept. In this chapter I have shown that there are common threads emerging which provide a theoretical framework that is anchored in social exchange. The purpose of trust appears to be to remove uncertainty and generate confidence enabling action within exchange situations. The available evidence highlights that trust rather than merely being a simple input or output variable in organisational processes, is a process that impacts on the way in which employees perceive work situations and relationships, as well as being a 'measure' of the quality of interpersonal, organisational and inter-organisational relationships as they evolve. Trust is concerned with weighing up the level of vulnerability, whether to accept said vulnerability and acting on the strength of the beliefs about a given situation. Any situation in an organisation that entails these elements is a potential arena for trust issues to be a salient concern. Recruitment and selection is the context for trust in this thesis which concerns itself with the vulnerabilities, expectations regarding the risks and uncertainties that arise from this setting.

The relationship between justice and trust was explored above and considered in terms of the proposed dynamics and complexity of recruitment and selection processes, one is led to conclude that trust and justice should be examined in this context, and be viewed as co-developing. In recruitment and selection contexts an understanding of justice perception in applicants without recourse to concepts of trust may lead to an incomplete characterisation of how applicants develop their view of the organisation and vice versa. There are clear gaps in the literature on trust and recruitment and selection. Little is known specifically about the role of propensity to trust and the role of trustworthiness in the recruitment/selection context although work in other contexts (e.g. negotiation) suggests that these variables are important (Klotz et al., 2013).

Based on the review in this chapter it is evident that trust (and justice) during recruitment and selection are relevant to multiple stages of the process, with outputs from each stage comprising applicant reactions that influence their continuation of the process. Applicants' primary motivations, knowledge of the organisation and general level of trust are likely to act as input variables, with some continuing to influence the relationship between trust justice and outcomes throughout the recruitment and selection process as shown in figure 2.3, below, which provides an overview of the entire model.

Definitional controversies also prevail in the literature notably those involving trust and distrust, and to date there is no work in the recruitment and selection context that has examined these concepts separately. Together these issues present a number of reasons for carrying out empirical work that contributes to the fecund debate on organisational trust. The next chapter outlines the methodology and methods underpinning this empirical work as presented fully in chapters 4 to 9.

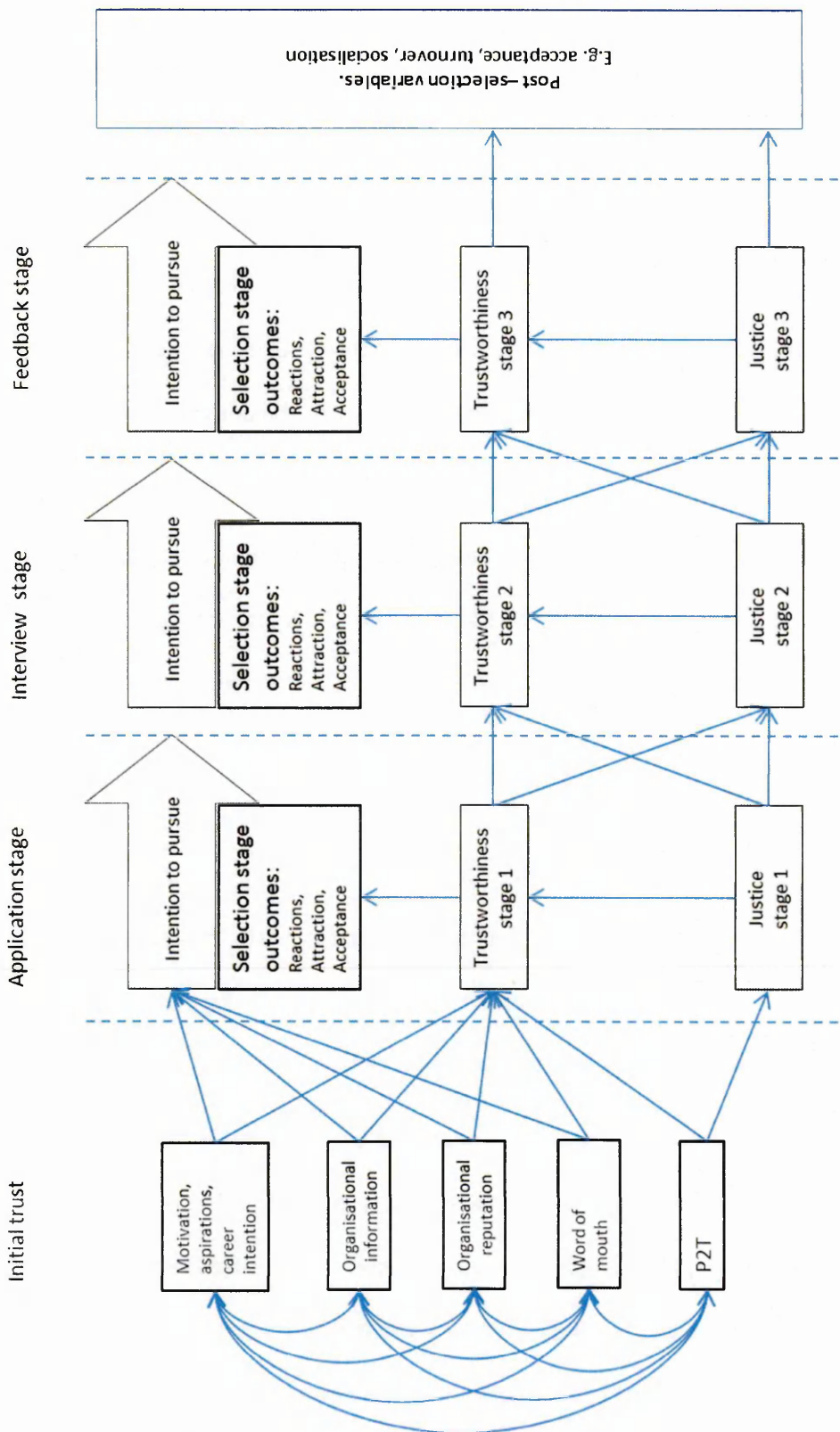


Figure 2.3 Overview of conceptual model of trust and justice in recruitment and selection

Chapter 3 - Methodology and methods

3.1 Introduction and overview of this chapter

A critical account of research should make explicit the reasons for pursuing particular methodological approaches in research design and justify them based on the research question (Dahlberg, Wittink, & Gallo, 2010, p. 777). The purpose of this chapter is to discuss in more detail the approaches and decisions for collecting data.

The terms 'methodology' and 'method' are often used interchangeably (Lessem & Schieffer, 2010; Nilsen, 2008, p. 82) leading to confusion and impoverished understanding of the research process. Furthermore, understanding how methodology and method relate to other aspects of the research process, such as epistemology and ontology is made more difficult by a failure to separate and consider these issues in detail (Crotty, 1998). For the purposes of the rest of this chapter the term 'methods' refers to those tools and instruments used in the design of research to collect data to explore the research question. In contrast, 'methodology' is the set of overarching approaches which inform method choice and analysis of the data collected.

This research is an example of *mixed method* e.g. employing and mixing multiple, qualitative and quantitative methods of data collection and analysis (Johnson, Onwuegbuzie, & Turner, 2007). A predominant discussion in the mixed method literature relates to the extent one can use and combine methods that differ in their scope and in their philosophical and conceptual underpinnings. The adoption of particular methods is not a trivial decision, and previous debates in social sciences consider the compatibility of different methodological approaches and assumptions further (Bryman, 2008a). The question about how these different methodological approaches can coexist and

complement each other in a single piece of research is paramount and part of the discussion in this chapter will focus on answering this question.

There are different opinions about the research process in mixed methods research (Teddle & Tashakkori, 2010). Typologies for mixed method research have been proposed that provide a sophisticated representation of the research process, of the balance of subjectivist/constructivist and objectivist strands in research and the integration of different methods and methodologies in addressing research questions (Biesta, 2010; Creswell, 2003). Of particular interest is Biesta's (2010) framework of seven levels of discussion for mixed methods research, which contends that each level of discussion broadly builds on the next. This framework emphasises the need to discuss the purposes of research and the practical roles occupied by researchers, which are particularly relevant in applied fields. A summary of the framework and the type of questions that are pertinent for discussion at each level of research is provided in table 3.1 below.

Biesta's framework can be challenged because it is not easy to see exactly how discussions of research purpose and practical roles could be built upon questions of epistemology and ontology, and therefore the levels conception may be an inaccurate representation at some of the levels. On the other hand research in mixed method contexts starts with the goal of research and research questions (Onwuegbuzie & Leech, 2006). In applied settings practical roles (e.g. consultant) enable such goals and purpose of research to be defined through interactions with and between research stakeholders (e.g. evaluation of an HR practice) and give rise to research questions. An argument in favour of Biesta's organisation of levels building on each other is that questions of epistemology and ontology and aspects of design in such a context flow from considerations of purpose and roles (for example adopting a more objectivist

Table 3.1

Summary of Biesta's (2010) seven-level framework for mixed method research

Level		Issues and questions asked about research
1	Data	Types of data , numeric, textual research data in the same research
2	Methods	Use of different methods that produce different types of data (numerical and textual, different approaches to analysis, e.g. statistical interpretative) within the same research
3	Design	The difference between interventionist (e.g. experimental) and non-interventionist (natural observation) and how these designs feed into knowledge claims
4	Epistemology	Appropriateness of different epistemological positions (realist, positivist, etc., objectivist, subjectivist) within the same research
5	Ontology	Appropriateness of different assumptions about reality in the same research
6	Purpose of research	The combination of explanatory intention and intention to understand
7	Practical roles of research	Relating to the role that research plays in practice

epistemology in research with military recruits). Research in applied settings only exists because a stakeholder permits access and only if they value the role of the researcher, the purpose of the research and the research questions generated during initial discussions. Practical roles and purposes of research therefore define both the research questions and subsequent methodological and conceptual corridors that researchers can traverse, rather than the other way around (cf. Biesta, 2010, pp. 103-104).

Instead of adhering to a rigidly hierarchical conceptualisation, Biesta's levels were used here as loose organising principles for discussion of methodology and methods. The primary purpose of this chapter is to outline these levels in the present research and provide a coherent account of:

1. what was done to obtain and analyse data,
2. the methodological rationale for methods chosen
3. the decisions made during the process, including those relating to the applied context in which part of this research is situated.

First, this chapter will discuss problems of positioning research epistemologically and ontologically, and declare the philosophical stance that was adopted in this research. Second, this is followed by an overview of the different studies conducted. I then discuss the general approaches adopted in the design including ethics, technical issues such as validity and reliability as they apply to the present research and general treatments of data during the data analysis process.

3.2 Epistemological & ontological positions and choices

Epistemology broadly refers to what constitute 'acceptable' knowledge claims, and ontology refers to beliefs about the nature of the world or reality (Bryman, 2008b; Coghlan & Brannick, 2009, p. 5; Saunders, Lewis, & Thornhill, 2009). One of the most pervasive differentiations of research positions in the social sciences is the objectivist/subjectivist dichotomy. Objectivism and subjectivism are typically associated with the use of quantitative and qualitative research methods respectively. How one defines one's own position in terms of these two major orientations has a bearing on what method space one can legitimately occupy (Saunders et al., 2009). As some authors suggest a great deal of previous research is informed by the notion that the only choices are objectivist or subjectivist positions (Biesta, 2010, p. 106), but rather than viewing the method space as binary, research positions could be viewed as being situated on a continuum (Newman & Benz, 1998; Saunders et al., 2009).

Historically there have been numerous divisions and debates within and between different philosophical positions (Denzin, 2010; Denzin & Lincoln, 2011). These debates question the compatibility of quantitative and qualitative methods, the role and influence of value systems within research, the compatibility of methodological assumptions and the incommensurability and comparability of interpretative and/or theoretical paradigms (Denzin, 2010). Furthermore, the historical view exposes a dominant ideology within the political institutions governing the context of research which positions qualitative methods as inferior within a methodological hierarchy, as providing a mere auxiliary function in the context of quantitative methods (Denzin, 2012).

However, I agree with Saunders et al. (2009) who argue that research questions rarely align with only one philosophical domain: ultimately and pragmatically which philosophies (and methods) are used depend on the research question. Rather than concerning oneself with whether or not research is philosophically informed, the main issue appears to be whether or not such stances allow one to...

...reflect on our philosophical choices and defend them in relation to the alternatives we could have adopted. (Saunders et al., 2009, p. 108)

Coming from a background of survey-based research with a definitive slant towards quantitative methods, consideration of the different stances is an area where my own thinking about research has undergone significant development and evolution. My choice of methods and analysis, although anchored within survey-based methodology, utilises analytical frameworks from both quantitative and qualitative traditions. Combining methods raises challenges about how interpretation from a qualitative study sits alongside findings derived from statistically driven data analysis methods. For example, using content analysis in the first study, a critical review of propensity-to-trust

measures, was conceived in purely qualitatively terms, but awareness of the methodological tensions concerning subsequent publication prompted use of rater reliability checks. Thus, such choices can be pragmatic, derived from both the research question being asked as well as axiological concerns (e.g. publishability).

3.2.1 Realism and pragmatism in the present research

There are two epistemological and ontological stances that are of great relevance to the mixed methods approach presented in my research: realism and pragmatism which are defined in this section. Both offer support to the central idea of mixed method research, that of combining different methods. Occupying the philosophical space of pragmatism and realism, was not an a priori choice, but one which became articulated by engaging with research design, data collection, analysis and interpretation of findings and consideration of the philosophical and conceptual bases on which different methods provided an integrated view of the research questions.

3.2.1.1 The critical realist position

Realism is compatible with both qualitative and quantitative research and therefore lends itself as a philosophical stance for mixed method research. Madill, Jordan, & Shirley (2000) distinguish between three realist positions: naïve, scientific realist, and critical realist. Exploring what these entail led me to consider that the stance taken in this thesis does not fully fit Madill et al.'s (2000) conception of a scientific realist view of knowledge, but instead bears hallmarks of the critical realist stance.

In the social sciences critical realism is regarded as the most important of the realist traditions and is commonly connected to the work of Bhaskar (1975, 1989) and others (cf. Maxwell & Mittapalli, 2010, for an overview). The central tenet of critical realism is that there is a real, rather than constructed social world that exists

independently of the observer, and one's interactions within it. Furthermore, social phenomena are discernible through the concepts and theories developed through research. However, rather than being objectivist in their stance, critical realists reject the notion of objective, certain knowledge, and acknowledge the validity of multiple accounts of phenomena. They view theories as grounded in the perspectives afforded by worldviews, that ultimately lead to theories being incomplete and fallible. Compared with scientific objectivism, critical realism is realist at the ontological level, *but*, importantly, constructivist at an epistemological level (Maxwell & Mittapalli, 2010, p. 151). Critical realism could be characterised as a position which assumes that one cannot have a perfect understanding of reality, although such reality is presumed to exist. Instead, we construct a representation which is refined through research and incrementally approximates this reality. Since our knowledge of it is approximate and constructed, any claims made about the real world must be subject to critical examination in order to maximise our understanding of it.

No research can ever be completely free of distortions arising from the constructed understanding of reality, via the tools used to assemble data about it. A common theme in this thesis is that bias arises from the use of common methods (Podsakoff et al., 2003; see also section 3.4.2.4, below). By using the same methods throughout a research project, construction of reality will be biased towards the type of results that the method generally tends to produce. So, specifically, using psychological scales and evaluating responses on scales numerically will produce particular ideas about the way the world works. In research on selection and recruitment researchers' experience of the very object of investigation is likely to influence choices of the type of theories attended to (e.g. justice, attraction), the type of questions asked and the sense that is made (e.g. relationship between justice and trust). However, employing mixed

methods can bring into play multiple methodological viewpoints and accounts that inevitably arise from using different analytic methods and procedures (e.g. statistical testing, template analysis, content analysis). Consequently, findings can then be used to triangulate, confirm or challenge interpretations produced by other methods. Conflicting viewpoints can emerge from using different methods, and this can lead to driving the development of new theory and thinking around a particular construct (as for example the work reported here on propensity to trust and propensity to distrust).

3.2.1.2 The pragmatic position

Biesta (2010) presents an argument for pragmatism as a third force in mixed method research that complements the more traditional subjectivist and objectivist dichotomy. The contribution of Dewey's pragmatism (Dewey & Bentley, 1949/1960) is significant in this approach. The starting point for Dewey is that unless there is interaction between the knower and the world, between subject and object, knowledge is not possible. Instead, the subject and the world are interacting parts, and it is through this interaction that knowledge becomes possible in the first instance. This view is not inconsistent with positivist or constructivist views and approaches to methods and methodology, or with the aforementioned critical realist position. However, importantly, pragmatism extends such views by suggesting that the only way one can obtain knowledge is by combining action (e.g. experimentation, participative observation, etc.) and reflection (e.g. reflexivity, evaluation). Thus, a pragmatic position in research entails a stance that views the objects of knowledge as constructed. But, rather than viewing knowledge as purely constructed, with no knowable external reality, it is the result of an interaction (or transaction) with reality, or 'knowledge is at the very same time constructed *and* real' (Biesta, 2010, p. 111).

Dewey's pragmatism liberates research from the dualistic conceptions of research, stemming from objectivism and subjectivism, and presents researchers with more than just a binary choice of research position and stances (Biesta, 2010). The implication of a pragmatic view is that there is no knowledge that provides deeper, truer or richer accounts than others, and instead the discussion is focussed on how a researcher interacts with the object of study. Applied to mixed methods, a pragmatist position potentially affords a much better integration of different methods and methodologies compared with a situation where one adopts a purely subjectivist or objectivist stance.

A further implication of a pragmatist view in research is that one should treat any observation as a transaction between the methods and approaches used on one hand and the object of research on the other. In survey research this relates to the interaction of survey respondents with the survey questions, as for example reflected in patterns of responding (Goyder, 1988). Prior experience of both the participants (e.g. with the theme of the study and with surveys) and the researcher (experience from pilot or exploratory studies) are undoubtedly factors that need to be taken into consideration when evaluating and interpreting survey responses.

Pragmatism is not the only position to adopt in mixed method research and therefore it should not be used as a blanket justification for all mixed method research (Biesta, 2010, pp. 113-114). On the other hand, some argue that the most important determinants of epistemology and ontology in pragmatic research are the research questions. Thus, a pragmatic stance can provide justification for using and combining different methods, particularly in applied contexts. Research leading to a PhD and the associated process of knowledge construction involves a student researcher as a reflective practitioner, similar to that in other applied contexts, e.g. health care research,

education research. As a result of this reflective stance, research questions can change, evolving in response to interactions with the subject and objects of the research. As in this research, challenges to the original plan for data collection were in themselves transactions that prompted changes in data collection strategy, eventually leading to access to participants in the studies reported in chapters 5-9. In this way, methodologies and methods adopted are pragmatic solutions to problems relating to the evolution of research design and data collection. Moreover, limitations and constraints of research methodologies can be understood differently when framed pragmatically. Since such constraints influence data collection and interpretation, the interaction between the researcher and process of data collection can highlight particular aspects of the context in which data is collected in ways that a methodologically monistic research strategy cannot. For example, difficulties with access to participants can impose limitations to the power of statistical studies; however the nature of difficulties in accessing data can reveal issues that are relevant in this context (e.g. such as stakeholder interests, and value systems operating in a particular context).

3.2.1.3 Pragmatic realism

There is not much in terms of the actual practical aspects that separates pragmatism and realism and they are closely aligned in terms of their ontological and epistemological character. Dewey's position on pragmatism has been referred to as a form of realism (Biesta, 2010) and many pragmatists are realist in their ontology (Maxwell & Mittapalli, 2010). Furthermore, concerns about compatibility in mixed method research (e.g. qualitative vs. quantitative, objectivist vs. subjectivist) diminish as pragmatism represents an alternative paradigm in which assumptions can act as guides to action within research, and which can provide a focus for developing workable solution in situations that are relatively unperturbed by philosophical assumptions (Greene & Hall,

2010). The research in this thesis has clear and applied links with recruitment and selection practice, and therefore pragmatic realism is the most appropriate stance for justifying a mix of methods and methodology used in the various stages of my research. What is learnt as a result of assuming that knowledge is a construction based on interactions with the real world helps provide a more critical view of the research questions as well as contribute towards understanding the implications for existing and future research in the organisational contexts to which this research applies.

3.3 Overview of methods in empirical studies.

In the following I outline the studies reported in chapters 4-9. This is written as a narrative account of methodological decisions and choices, showing how different studies sit together in relation to answering the research question. Details of the scales and survey questions are provided in the relevant chapters and the appendices.

3.3.1 Exploratory pilot and propensity-to-trust literature review

A pilot was carried out with 10 students (July 2009) which explored propensity to trust in relation to selection experiences in a pilot test of early hypotheses regarding propensity to trust and selection experiences and perceptions. This provided a view counter to what might be expected from theory: participants' propensity to trust appeared to have no discernible relationship with perceptions of organisational trustworthiness. An in-depth literature review and content analysis of propensity-to-trust measures was being carried out in parallel with the pilot, and this highlighted conceptual and methodological concerns reflecting the proliferation of scales measuring propensity to trust in a fragmented field (cf. Gillespie, 2012; Lewicki & Brinsfield, 2012). Apparent weaknesses in propensity-to-trust measures (see chapter 4) raised questions about construct validity and highlighted potential methodological problems in research using

these measures. Data from the pilot in addition to evidence from early literature reviews raised the question to what extent measures of propensity to trust could be relied upon not to produce type 1 or type 2 errors and to what extent they were valid measures of propensity to trust.

3.3.2 Study 1 & 2

Prior experience obtained from undertaking the initial literature review and content analysis informed the choice of methods for study 1 and 2. Despite the dominance of survey research in the trust literature and the abundance of measures of propensity to trust, there has previously been little research attention given to dimensions of propensity to trust. A further consideration was whether a lack of relationship between propensity to trust and selection experiences found in the pilot might be attributable to confounded variables and dimensions in measures of propensity to trust. Together with the evidence from the literature review, this led to the decision to explore the construct and measurement of propensity to trust in further detail using factor analysis and card-sorts as described in chapter 5 and 6. Considering recent reviews that emphasise the role of propensity to trust in selection (Klotz et al., 2013; Searle & Billsberry, 2011) and the structure of propensity-to-trust scales (Ashleigh, Higgs, & Dulewicz, 2012), this work is at the cutting edge of research into trust. A survey-based, factor analytic approach seemed to be the most appropriate choice of method in order to provide new insights on the convergence and dimensionality of different measures of propensity to trust (**study 1**).

Previous research indicated that a purely survey-based approach was felt to be insufficient and risked common method bias (Podsakoff et al., 2003). Two important considerations in the evaluation of scales are their construct and face validities. In order to explore this further a second study (**study 2**) was designed that built on the content-

analytic methods used in the propensity-to-trust literature review and on the dimensions identified early in study 1. Using card-sort technique, items were presented to participants (n=9), whose task it was to categorise and then rate the strength of fit with the dimensions that had emerged from the earlier factor analysis. Although this is a relatively small sample for multivariate analysis, using Krippendorff alpha (Hayes & Krippendorff, 2007) enabled calculation of agreement scores reflecting overall agreement between multiple raters across all variables rated and indicated how similar their perception of these dimensions were. It should be noted that the analysis on which the dimensions in study 2 are based is not the same factor analysis reported in chapter 5, but an earlier version in which varimax rotation was used during the analysis. Reviewing rotation subsequently, evidence for correlations between factors was found, and therefore an oblimin rotated factor solution was adopted in the final analysis reported in chapter 5 .

Study 1 and 2 provided a clearer understanding of measures of propensity to trust. Factors, as mathematical constructs, reflect both an aspect of an individual's personality, as well as the impact that measurement had on participants during their completion of the survey tasks. In addition to findings relating to three to five broad factors, this process enabled further insights into the reason(s) why participants answered items in such distinct and patterned ways. Given the paucity of factor analytic studies within the existing literature on propensity to trust, this represents an original contribution to the debate complementing previous attempts to identify dimensions within propensity-to-trust measures.

3.3.3 Study 3 - longitudinal study

Having explored the issues raised by the pilot, this phase in the research was intended as a more direct approach to the main research question. Study 3, detailed in

chapters 7, 8 and 9 is a multi-stage prospective study. Tracking applicants through a recruitment process is preferable to retrospective approaches which can be biased due to outcome favourability for both trust measurement and reaction variables (Ryan & Ployhart, Brockner, Siegel, Daly, Tyler, & Martin, 1997; 2000). In selection, unsuccessful applicants often report a more negative impact, and successful applicants may minimise negative aspects of selection after being told they were successful. However, longitudinal applicant studies are difficult to implement owing to the timing of data collection required for the design to operate successfully and also because of attrition of participants through the different stages. Controlling *when* measurements are taken in a longitudinal process is an important consideration of the quality of the measurement and interpretation of results.

3.3.3.1 Proposals for tracking research

Between 2009 and 2011 several attempts were made to recruit organisations for participating in a longitudinal study of live applicants. Approaches were made to organisations that had large scale recruitment processes (monster.co.uk, Tesco, Sainsbury, Asda, John Lewis, and British Midland) as well as to specialised recruitment processes (London Deanery specialist training and specialist masters courses in Medicine at Imperial College London).

Reasons given for not agreeing to my proposals for research were varied and in some case remain unknown, as I was met with no response at all. In other cases the parties concerned expressed an initial interest, and despite reassurances and consultation with the stake holders to tailor surveys to their requirements, and protect both applicants and the organisations, these proposals failed to translate into data collection opportunities. One can only speculate on the reasons for proposal rejection. Relevant discussion on access to research participants can be found on gatekeepers in

organisational research (Broadhead & Rist, 1976; Bryman, 2008b; Buchanan & Bryman, 2007; Saunders et al., 2009). Some thoughts on the issues pertinent to my research are given in table 3.2, below.

Table 3.2

Issues and problems in achieving proposal acceptance and gaining access to participants

Issue	Detail relevant to this research
Role of the researcher(s)	<ul style="list-style-type: none"> • Researchers' position of power within the organisation and leverage (cf. Broadhead & Rist, 1976) • Negative perception of academic researchers in providing useful services (Bond & Paterson, 2005; Jacobson, Butterill, & Goering, 2005) • Businesses generally prefer other forms of consultancy and advice (Berry, Sweeting, & Goto, 2006)
Gatekeepers	<ul style="list-style-type: none"> • Gatekeeper's failing to pass on details to relevant stakeholders (Saunders et al., 2009) • Insufficient power of the gatekeepers to gain support. (Rose, 2000)
Stakeholder impact	<ul style="list-style-type: none"> • Concerns that unsuccessful applicants would react negatively towards the organisation if asked about their experience • Asking good applicants to take part might reflect negatively on the organisation and could lead them to withdraw from the selection process • Conflict with existing HR processes of evaluation
Data protection	<ul style="list-style-type: none"> • Reluctance to release any personal information about their applicants for fear of violating data protection and thus breaching the trust placed in them by their applicants
Competitive recruitment	<ul style="list-style-type: none"> • Reluctance to allow outsiders to gain an insight over what is essentially a competitive process
Trust and public image	<ul style="list-style-type: none"> • Reluctance to participate in research that might expose an aspect of their process to be shown as untrustworthy.
Perception of business value	<ul style="list-style-type: none"> • Perception that research may uncover trust as an issue that affects business adversely • e.g. breaches of data security for job applicants subscribing to a service some years in the past (Percival, 2010)

3.3.3.2 OU research degree tracking study

Institutional support for a tracking study of applicants was finally secured with the Open University's research school. A justification for using research degree students in a study on recruitment and selection trust rather than applicants for more traditional jobs can be found in the arguments summarised in table 3.3.

Table 3.3

Summary table showing justifications for using research degree students in answering questions about trust in job applicants.

<i>Issue</i>	<i>Argument for rationale and justification</i>
<i>Competitive recruitment market</i>	<ul style="list-style-type: none">• Universities compete for PhD candidates with private and public sector organisations and other universities• Universities cannot offer the same incentives that graduates may enjoy in industry without a PhD (Franke & Mueschen, 2001)• Need to study recruitment processes in order to remain competitive.
<i>Knowledge sharing and trust</i>	<ul style="list-style-type: none">• Knowledge sharing and PhD work are closely related• Trust is an important element in knowledge sharing, (Mooradian, Renzl, & Matzler, 2006).• Opportunity to study trust in context of a job where trust is an aspect of the work
<i>Trust in the supervisory relationship</i>	<ul style="list-style-type: none">• Trust is important in supervisory relationships (Gardiner, 2008; Kramer, 2012; Sinclair, 2004; Whitelock, Faulkner, & Miell, 2008)• No previous work on supervisory trust at pre-entry stage• Relates to the question of whether applicants attracted to the organisation or their supervisors• Few studies on trust in the PhD supervisory relationship.

Table 3.3. Continued from previous page

Issue	Argument for rationale and justification
<i>PhD applicants' vulnerability</i>	<ul style="list-style-type: none"> • Acute stress of PhD examinations (Droogleever Fortuyn et al., 2004) • Risks of harassment during the studentship (Lee, 1998) • Disruption to the supervision process and academic misconduct, (Mitchell & Carroll, 2008) • Reduced salaries during the studentship, 'working for free' (Thatcher, 2012) • Risk of non-completion (Wright & Cochrane, 2000) • Dropout-rates appear to be less in students who are provided with grants and fellowships, versus students who are self-financing (van der Haert, Arias Ortiz, Emplit, Halloin, & Dehon, 2014). • Vulnerabilities in the role imply context for trust including breaches - how aware are applicants of their subsequent vulnerabilities at the pre-entry stage? (e.g. applicant's awareness of vulnerability; Searle & Billsberry, 2011)
<i>Trust and career expectations</i>	<ul style="list-style-type: none"> • Career prospects vary depending on academic field and country. Expectations may be higher than warranted (Fox & Stephan, 2001; Mertens & Rübken, 2013) • Potential breaches in trust if expectations are unmet • Need to understand the expectations of research degree applicants
<i>Motivation for research degree</i>	<ul style="list-style-type: none"> • Not a great deal of literature on the motivation of students at postgraduate level (cf. Ho, Kember, & Hong, 2012). • Lack of research on the transition students make from undergraduate to postgraduate study (Tobbell & O'Donnell, 2013) • Applicant tracking study provides opportunity to investigate motivational and transitional elements
<i>Selection techniques in research degree selection</i>	<ul style="list-style-type: none"> • Selection techniques in research degree recruitment/selection are similar to work sample testing which are high in validity (Schmidt & Hunter, 1998) and low in adverse impact (Callinan & Robertson, 2000; Robertson & Kandola, 1982) • Feedback to applicants • Opportunity to look at research questions about trust in the context of these selection processes

The proposal for tracking PhD applicants through a selection process was accepted after satisfying the Open University's internal rules for carrying out research on its students (see section 3.3.4). It was expected that there would be attrition between stages, and a great deal of preparation went into ensuring that there would be a good response rate. Data was collected using electronic surveys at each stage. These were sent to applicants who were still in the process after each stage (see table 3.4 for an overview).

Table 3.4

Data collection process of longitudinal study

Stage	Details	Time frame
Stage 1	all applicants who submitted application forms and proposals	May 04 th 2012- May 21 st 2012
Stage 2	all interviewed applicants	June 25 th 2012 - July 19 th 2012
Stage 3	all stage 2 applicants after they had been informed of the outcome	August 20 th 2012- September 3 rd 2012
Stage 4	all surviving applicants shortly after the registration event	October 19 th 2012- November 2 nd 2012

The surveys contained both open and closed questions and employed a variety of established or adapted scales, including measures of *selection justice*, *propensity to trust*, and *organisational trustworthiness*. Items designed to measure various aspects of applicants' perception were created. Owing to the logistic practicalities of piloting within the time frame, surveys were scrutinised by the supervisory team, rather than through administration to a representative cohort. This ensured that the surveys were ready to go

in time. Participants were invited to comment on their participation in the research which was expected to provide some insight into the impact of the survey on applicants.

Data collection did not run as smoothly as had been anticipated, reducing the number of applicants who were contacted for the later stages of the survey. Ultimately this led to a disconnection between stage 2 and 3, with the implication that participants could not be tracked further than stage 2. Data for stages 3 and 4 was looked at separately but provided little insight without being matchable to stages 1 and 2 and is therefore not reported in this thesis.

3.3.4 Ethics

A key requirement for research with human participants is to ensure that they are protected from harm as a result of their participation. In order to safeguard participants at the Open University, any proposal by members of staff and research student are required to seek ethical approval through the Human Research Ethics Committee (HREC) The research degree handbook states:

‘Any research involving the collection of data or tissue material from individual humans requires ethics review, with the exception of research where ‘any reasonable judgement would suggest that no harm could arise to any person, living or dead’. Gaining a favourable opinion from an ethics committee on the ethics protocol for a research project is important as a means of protecting participants, researchers, supervisors, the institution and any funding bodies, and minimising the likelihood of legal action being taken against any parties involved.’(OU, 2013, p. 27)

For psychological research the British Psychology Society’s code of ethics (BPS, 2010) provides guidance specifically with reference to research with human participants.

All studies were designed with these guidelines in mind. Ethical approval was sought via HREC for all studies reported in this thesis. Since both study 1 and 3 used student participants, further advice was sought from the Student Research Project Panel (SRPP) who provided contact details for study 1 and contacted participants for study 3. The view taken by HREC was that the research presented minimal risk and guidance on data protection was provided to ensure protection of participants and compliance with organisational responsibilities and duties of care. The following subsections summarise the steps taken in each of the studies in relation to the BPS recommended guidelines for research.

3.3.4.1 Risks

Trust is a potentially sensitive issue, in particular for people who may have anxiety relating to trust or who may be reflecting on an aspect of their own past experience while completing surveys in which some items asked them about trust. There were no items that specifically sought to elicit information on what could reasonably be classed as sensitive (e.g. exposure to violence, abuse) although it is possible that for some questions, such as those pertaining to health, disability gender and ethnicity could be sensitive for some (for example, asking someone what work reasons made them decide to register for a PhD).

A second issue concerns the propensity to trust study (study 1). This contained a large number of items and thus required participants to engage in a fairly repetitive task. One possibility was that participants might experience fatigue; however they were told of the time the task should take to complete, and to work quickly. Furthermore, they had the right to withdraw from the study if they felt they did not wish to continue. In order to avoid exposing participants to unnecessary testing, duplicate items across the survey had been removed. Some participants commented on the survey taking longer than they

thought, and invariably any fatigue and annoyance may have translated into response bias for those who completed, as well as contributing to a numbers of incomplete surveys.

Other risks which were not specifically articulated as part of the proposal were risks to myself as researcher, which range from participants complaining, to producing sufficient data to make data-analysis possible.

3.3.4.2 Consent

Prior to any data collection participants were required to give their informed consent. The electronic survey forms had a preliminary statement with a tick box which participants were required to tick before they could answer any of the items. Renewal of consent was sought for the longitudinal study by re-inviting applicants only if they had indicated their willingness to be contacted again. Participants were briefed on the nature of the study, the type of data to be collected, the method of collection, and data protection compliance. They were informed that their data would be held confidentially and any reporting and dissemination of research would remain anonymous. They were told how long surveys would take to complete and that they would be able to withdraw at any time. Further, my email address and that of my supervisor were provided, as well as that of the Dean of research in the Social Sciences Faculty for the longitudinal study.

3.3.4.3 Confidentiality

All data used in this research was treated confidentially, meaning that participants' identity would not be disclosed. This assurance did create a dilemma for the researcher; a participant made some comments which were very detailed in terms of the context that was being described potentially risking unwitting disclosure of a participant's identity to a third-party via use of the quote in the template analysis. In order to prevent

this, the quote was edited to change information in the quote that could be used to identify the person directly.

Keeping data secure is a data protection requirement and guides the choice of online survey tools (e.g. survey monkey, Open University systems) in order to ensure compliance with UK and European data protection legislation. At a practical level data was kept on a password protected system and when not at the OU was kept on secure, password protected and encrypted media (flash drive). Data was not shared with others.

3.3.4.4 Advice

No advice was given to participants during the research process, and the items were written so that no value position (regarding what someone should do) was presented.

3.3.4.5 Deception

Deception was not used as part of the research design.

3.3.4.6 Debriefing

Participants were not debriefed with the exception of the card-sort, where participants attended in person. Debriefing from the surveys was not felt necessary since the purpose of the study had already been explained from the outset and the surveys were themselves relatively transparent.

3.4 Developing the design and methodologies for this research

During proposal development and prior to registration I reviewed a number of papers that could be regarded as key entry papers in the trust literature relevant to my topic of interest. At this stage, there were few existing papers on selection and trust, and this permitted the casting of a fairly broad research question namely 'What is the role of trust in selection and recruitment?'

Following Bryman's (2008b) suggestion, the initial review, as well as subsequent reviews in later stages of my research degree served to explore the issues (adapted from Bryman, 2008b). These are listed in column 1 in table 3.4 below. Column 2 shows a short comment on what my literature reviews contained.

Table 3.5

Summary table of issues identified through literature review (issues adapted from Bryman, 2008)

Issues identified in literature	Comment
<i>Existing knowledge in the area of research</i>	Organisational Trust literature Definitions, ABI, propensity, distrust/trust, affective/cognitive, trust and justice Selection literature Job pursuit, Attraction, Selection impact, Justice
<i>Key concepts used in this area</i>	Consensus views; ABI model Propensity to trust Justice concepts Selection impact and why it is important
<i>Research methods and strategies that have been reported in the literature</i>	Mostly survey, quantitative data some ethnographic work some mixed method technical issues for running specific analyses (e.g. template analysis, factor analysis, SEM)
<i>Important controversies & problematic findings in the area</i>	Fragmented nature of trust field Trust as a slippery concept Trust and trusting Measurement of trust Trust and/vs distrust Outcome favourability - Lack of longitudinal designs Justice and trust relationship (primacy, exchange)
<i>Unanswered questions</i>	Trust vs/and distrust Dimensions of propensity to trust Relationship between propensity to trust, justice, trustworthiness Perception and trust (on its own and in selection) The role that trust plays during recruitment and selection Mediator and moderator relationships in trust and justice concepts

3.4.1 Approaches and strategies for literature reviewing

Electronic searches using Google scholar, EBSCO, PsycINFO and ISI web of knowledge were the most preferred method, and provided ready access to primary sources used in this thesis, as well as a measure of a citation's influence (number of cites).

Two main strategies of searching were used: snowballing and reverse snowballing

(Sayers, 2007). Snowballing refers to a process, where the reference list from a source is used to identify relevant articles published prior to the source article's publication, until no further references can be identified. Reverse snowballing is where one uses the citation indexing functions to identify articles that have used the source since it was published. In addition, keywords from articles were extracted to search for relevant material and the process followed an iterative procedure similar to the literature review process outlined in Saunders et al. (2009, p. 60).

Although secondary sources were used to guide thinking about specific areas, I used these only where necessary to identify primary sources, for gaining an insight into specific topics, and as reference works. As a result, there are no examples in this thesis where secondary sources are used as proxies for primary sources.

Following an initial list of recommended primary sources, I used snowballing and reverse snowballing approaches to identify key researchers and orientations within the field, as well as identifying the boundaries of the literature search. This was further guided by discovery of several synoptic, integrative and historic reviews and meta-analyses at different stages of the thesis (e.g. Colquitt, Scott, & LePine, 2007; Hausknecht et al., 2004; Hayes, 2009; Mollering, Bachmann, & Lee, 2004). More in-depth keyword searching was carried out to address specific sections of the literature review and issues relating to technical aspects of the analysis (e.g. trust and justice, trust and distrust, trust and risk, cognitive and affective trust, moderated mediation, confirmatory factor analysis).

3.4.2 Methods used in the research design

The following section covers the methods used in the research design and provides an overview of how they were employed. Detailed information on scales and

surveys as well as other information relating to individual studies are found in the relevant chapters. I begin with a brief discussion of research methods used in previous research.

3.4.2.1 Research strategies and methodological choices in previous research

In both trust and recruitment/selection research there are examples of approaches that can provide alternatives to the dominantly quantitative survey studies (Lyon, Möllering, & Saunders, 2012). Amongst others, those which were initially considered for the present research include diary method (Searle, 2011), ethnographic studies (Fine & Holyfield, 1996), card-sorts (Saunders, 2012) and interviewing (Wilson & Patent, 2011). Research with vignettes was also considered, following an exploration of image theory (Beach, 1998) and examples of work on both trust (e.g. Dimoka, 2010) and work on selection that use vignettes (e.g. Anderson, 1991; Karpinska, Henkens, & Schippers, 2011). However, previous work on trust suggests that the process of trusting is under-researched (Dietz & Den Hartog, 2006), and longitudinal designs in general offer greater scope for researching processes (Saunders et al., 2009). More recent work on trust in recruitment and selection has also led to recommendations that studies should explore recruitment and selection longitudinally (Klotz et al., 2013) in order to better understand the development and shaping of trust during the pre-entry process. As a result of these theoretical and methodological developments and recommendations, the vignette approach was discarded in the present research, in favour of a longitudinal tracking design, and this was further informed by the advantages of such designs reported in previous work in the field (Bauer et al., 1998; Truxillo et al., 2002).

3.4.2.2 Content analysis in literature reviewing

Content analysis is a major analytic technique with both quantitative and qualitative traditions, with many applications in the literature (Neuendorf, 2002). Different approaches range from fairly intuitive to highly systematic rule- and procedure-bound variants (Hsieh & Shannon, 2005; Krippendorff, 2012; Rosengren, 1981). In the present research, content analysis was used to analyse the content of items of published scales of propensity. The aim was to determine whether there were particular types or families of items (See chapter 4).

Using content analysis to review aspects of a research literature is not a new approach with several examples of content-analytic literature reviews available in a broad range of areas, from business to medicine (Duriau, Reger, & Pfarrer, 2007; Kaestle & Ivory, 2012; Wang, Haertel, & Walberg, 1990; Worthington & Whittaker, 2006). However, it appears to be underutilised in terms of item analysis, which is the basis for the use of content analysis in chapter 6.

The content-analytic strand of my work evolved from intuitive reading of items and scales during the propensity-to-trust literature review, from consideration of evidence from previous factor analytic studies and from early readings on content analysis. The approach taken in this research followed a more qualitative direction (Graneheim & Lundman, 2004) with the idea of mapping the dimensions across scales. However, following discussion with supervisors, items were then coded by another rater to produce reliability measures (percent agreement). As discussed in chapter 4 this raises questions about ambiguity and clarity of the items and underlying constructs. Data from the content analysis was used to produce two confusion matrices in which the scales were shown as indicating the 'dimensions' they appeared to cover.

The appropriateness of this approach depends entirely on the specific epistemological and methodological orientations adopted by the researcher. When viewed in qualitative terms, credibility and trustworthiness are important considerations for content analysis. From a pragmatic point of view, this content analysis achieved the goal of raising new research questions and the impetus for the exploration of propensity to trust using the additional factor analytic and card-sort techniques discussed in chapters 5 and 6.

3.4.2.3 Using card-sorts for item analysis and dimension exploration

The idea for using card-sort method (chapter 6) stemmed from the initial content-analytic work described above. I was also encouraged to explore this method because of awareness raised of other work using card-sort methodology during the early stages of design (Saunders, 2012). The aim of study 2 was to enable further exploration of propensity to trust with particular reference to its dimensionality as identified in an earlier factor analysis. Initially the plan was to develop an innovative strategy for item analysis using content-analysis, in order to consider whether propensity to trust was a multidimensional construct. At this time I had already carried out factor analytic exploration using varimax rotation that provided some evidence of factor structure and therefore the subsequent card-sort was based on this. A plan to utilise card-sort method in the service of a content analysis with multiple coders was then developed with the aim to learn more about the dimensions that emerged from this early factor analysis. This approach also raised the question as to whether content analysis could be used in psychometric validation, offering an additional tool to examine the quality of the constructs identified by other methods.

Although there are some examples of content analysis being used in psychometric applications (Neuendorf, 2002), it has not apparently been used for the purpose of item

analysis. The card-sort technique in this study is derived from earlier studies using card-sorts (Rosenberg, Nelson, & Vivekananthan, 1968; Rosenberg & Park Kim, 1975; Whaley & Longoria, 2009) that required participants to sort descriptions printed on cards into piles, based on their perception of each item's affinity with dimensions. Typically, such dimensions are either made available by researchers or generated by the participant themselves. In this task participants had to allocate items into one of five piles, with each pile representing one of the dimensions derived from the aforementioned factor analysis of propensity-to-trust items. Additionally they were also required to provide a rating of the perceived fit of each item with each of the five dimensions.

Due to the limited number of participants who completed this task, data generated via this approach were analysed using the Krippendorff alpha measure of rater agreement (Hayes & Krippendorff, 2007; Krippendorff, 2004). With hindsight and owing to the use of multiple raters, this design has some resemblance to Thurstone attitudinal scale construction (cf. Clark-Carter, 1997, p. 91), but with two important differences. Firstly, rather than averaging ratings for items, I calculated average Krippendorff alpha agreement, representing the agreement between raters in allocating the item to each dimension. Secondly, the results for this analysis were not used to create new scales, but to gain insight into the perception of items by participants, as well as the opacity of each item in terms of the underlying factor derived constructs. Informal interviews were used during the debriefing to learn more about how participants engaged with the task. With hindsight this particular aspect of the work could have been organised differently, especially following the card-sort, interviews of participants about their own tendency to be trusting could have been more structured instead of open-ended. Nevertheless, interviews served to gain insight into reactions to the card-sort and rating task, and rater decision-making processes regarding the dimensions for each item.

3.4.2.4 Survey based research

Surveys were the dominant method used in this study. They are common in organisational psychology and can provide convenient access to large numbers of participants particularly if delivered online. Surveys are not without their methodological issues. A problem identified in occupational/organisational research is that of common method bias (Podsakoff et al., 2003) systematically distorting results because of design issues inherent in surveys (e.g. response acquiescence, confirmatory bias). As a result, one should not simply assume that *how* participants interpret questions is always as they were intended. The risk of distortion can be mitigated through consideration of questionnaire design and the adoption of mixed method approaches, whereby quantitative approaches are triangulated with qualitative approaches, and where different ways of obtaining and analysing quantitative data are explored. However, it is unlikely that any survey could ever be free of bias.

A further challenge in survey work comes from understanding attrition and the reasons why not more people participate, or why they leave survey forms incomplete (Goyder, 1988). Response rates for online surveys can vary quite widely and depend on method of delivery. For example, Baruch & Holtom (2008) have shown fairly wide ranges in response rates for emailed and web surveys (23% - 89%) depending on the target population and organisations in which surveys are deployed. In order to minimise non-completion and attrition, care was taken to produce surveys which were as considerate as possible of participants' needs (e.g. fatigue, alertness). A decision was made to include open-ended questions to help overcome some aspects of common method bias as well as making the surveys more varied and interesting to the participants.

During survey construction efforts were made to anticipate design issues that lead to poor response rate and unintended interpretation of questions, by checking questions

for readability and considering the cognitive load of the question tasks. The online delivery of surveys also opened up some advantages (sending of reminder messages, ease of managing data electronically, costs and design, including randomisation of items in scales).

Trust research and selection research are both dominated by the use of student samples in surveys. Problems associated with use of student samples have been debated for some time. These problems are varied but include lack of generalizability to other samples (e.g. student vs managerial samples in salary determination studies; Barr & Hitt, 1986) and lack of replicability and hence lack of generalizability to equivalent student samples (Peterson & Merunka, 2014). Meta-analytic studies have highlighted problems with sample homogeneity and a lack of diversity, and problems with the directionality of findings (Peterson, 2001). However, there have also been arguments in favour of using student samples. Rather than dismissing research findings because they are based on college samples, one should consider them more carefully in the context of the other possible samples that could have been used (Greenberg, 1987). In some contexts the use of certain student samples (e.g. MBA, PhD students) may be relevant to the research question in which case student samples may be appropriate (Bello, Leung, Radebaugh, Tung, & Van Witteloostuijn, 2009). Some authors suggest that rather than apologising for using student samples authors of papers should include 'an explicit statement justifying the theoretical relevance of the subjects employed to test the specific research question for the population of interest' (Peterson & Merunka, 2014, p. 1040)

In the present research, student samples were used, however, Open University students are atypical for university students, since most are mature students, who have experience of work and other commitments and therefore offer a much better approximation to the working age population of potential job applicants than student

samples from traditional universities. Discussion of why research degree students were deemed relevant was already given in section 3.3.3.2 above.

3.4.2.5 Quantitative analysis of survey data

The quantitative treatment of individual variables is described in the relevant sections in chapter 5, 6, 7 and 8. All variables were checked for errors, normality statistics (e.g. kurtosis, skewness, and tests of normality in SPSS). Detailed justifications for such decisions are made in the analyses contained in the relevant sections in chapter 5, 7 and 8. In the following sections, general principles guiding the analyses are discussed.

3.4.2.5.1 Regression

Regression analysis was performed for a number of analyses in study 1 (chapter 5) and 3 (chapter 7), following the suggestions of Howell (2002) and Cohen, Cohen West & Aiken (2003). Sample size and other assumption violations of Ordinary Least Squares (OLS) regression were threats to the analysis for all of the analyses carried out. Using score transforms generally did not reduce problems with skewness and kurtosis. However, another solution for dealing with non-normal distribution of residuals is to use bootstrapping (Fox, 2008, p. 587). MPLUS was used for calculating bootstrapped regressions. SPSS now also includes bootstrapping options for some regression analyses, but this functionality only became available after an initial run of analyses had been performed using MPLUS. MPLUS also has advantages in performing regression analysis with categorical and ordinal variables that are not easily computable in SPSS and this was the motivation for relying on MPLUS rather than SPSS for regression analysis.

3.4.2.5.2 Factor analysis

In study 1 measures of propensity to trust were investigated using exploratory and confirmatory factor analysis (chapter 5). In the applicant tracking study (chapter 7 and 8)

exploratory factor analysis was used to check for the presence of multiple factors as part of the analytic decision-making process. Rather than repeatedly discussing the justification for detailed checks of assumptions (e.g. multivariate normality) and methods of factor analysis used in the relevant chapters, the rationale and principles that were applied in each of the studies are described below.

Rotation

In exploratory factor analysis it is recommended that orthogonal rotation should be avoided if there is evidence of correlated factors (Tabachnick & Fidell, 2007). In order to determine the best rotation method in SPSS, oblimin rotation methods were selected in the final analyses in order to obtain factor correlations. The factor correlation matrices were then examined in SPSS according to the procedure recommended by Tabachnik & Fidell (2007, p. 646) to determine if there was evidence of correlated factors. If factors were uncorrelated orthogonal rotation (varimax) was used instead.

Number of factors

The Kaiser criterion (Kaiser, 1960) is a simple to use visual tool for assessing the number of factors using a scree plot. However, the Kaiser criterion has been regarded as an inaccurate approach, leading to over-extraction of factors (Cliff, 1988) and determination of where the scree plot begins to diminish is a matter of judgment lacking rigor. In particular, problems may become exaggerated when sample sizes are small and when there are a large number of variables; this is the case in some of the analysis carried out in this thesis (e.g. chapter 5).

Fortunately, there are more robust alternative statistical procedures for estimating the number of factors. Using the software programs developed by O'Connor (2000) it is possible to calculate the *Minimum average partial (MAP) criterion* (Velicer,

Eaton, & Fava, 2000) and Humphrey-Ilgen parallel analysis. Parallel analysis (Horn, 1965), in particular the *Humphrey-Ilgen parallel analysis* (Lance, Butts, & Michels, 2006; Velicer et al., 2000, p. 67) has been recommended as the best statistical method for estimating the number of factors (Garson, 2012a). Using this method one selects the number of factors on the basis of their Eigenvalues being greater than those that would occur by chance from a population where variables are uncorrelated with one another. Estimating the eigenvalues of the uncorrelated variable population is done in O'Connor's programme by setting the number of times samples are drawn. The number of iterations were set to 100 (default) and this approach was used to determine the number of factors to be extracted throughout the empirical analyses. The number of factors can be determined based on the graphical intersection within a scree plot showing both the original eigenvalues, next to the estimated uncorrelated population. Additional checks against other software calculations (e.g. FACTOR) were also used to compare and confirm estimates. It should be noted that evidence from parallel analysis does not provide a measure of interpretability. From a conceptual or theoretical point of view and decisions about factors and variable combination were further guided by pragmatic and theoretical considerations.

Principal components analysis Vs Factor analysis?

Principal components analysis (PCA) is often regarded as a default option for doing exploratory factor analysis (EFA), however guidelines for EFA suggest choice of method should hinge on whether the question is data reduction or identification of latent factors; in the latter case, principal components analysis is not appropriate (Fabrigar, Wegener, MacCallum, & Strahan, 1999, p. 275).

Costello & Osborne's (2005) recommend maximum likelihood (ML) or principal axis factoring (PAF) estimation techniques instead of PCA. PCA does not distinguish

between shared and unique variance, whereas PAF and ML factor analysis account for common variance only. PCA is simply a data reduction strategy, calculated without consideration of an underlying structure, and tends to inflate variance (Costello & Osborne, 2005). PCA may be acceptable because comparisons of results with factor analysis (e.g. PAF or ML) often produce very similar results (Velicer & Jackson, 1990), but others have also reported divergent outcomes under certain conditions (Costello & Osborne, 2005; Gorsuch, 1990). Maximum likelihood methods are recommended and regarded as an indication of best practice in factor analysis (Costello & Osborne, 2005; Fabrigar et al., 1999). However ML can run into problems when data is not multivariate normal. Instead principal axis factoring (Fabrigar et al., 1999) or mean and variance adjusted variants of Maximum likelihood estimation (Muthén & Muthén, 2010) should be used, as was the approach adopted in this thesis.

Tests of multivariate normality

In order to test for violations of assumptions regarding multivariate normality, tests of multivariate normality were carried out using an SPSS macro programme for calculating Omnibus normality tests and indexes of multivariate skew (DeCarlo, 1997; <http://www.columbia.edu/~ld208/normtest.sps>). This includes combined tests of both multivariate Kurtosis and Skewness (D'Agostino & Pearson, 1973, K2; Jarque & Bera, 1987, Lagrange Multiplier test; Mardia, 1970; Small, 1980; Srivastava, 1984). In chapter 7 and 8 the FACTOR programme (Lorenzo-Seva & Ferrando, 2006, 2012) was used to provide a test of Mardia's test of multivariate normality. For all the above measures deviation from multivariate normality should be assumed when the test returns a significant result and appropriate action should then be taken in the analysis to compensate (e.g. transforms, bootstrapping or use of estimators that do not rely on normality assumption).

Other methodological issues with Factor analysis

Stage 1 & 2 data in study 3 included data for scales that had known or suspected factor structure and factor analysis was used to confirm existing scales (e.g. selection justice) or to explore data so as to guide the use of separate dimension scores in the analyses for study 3 (chapters 7 and 8). The justification for creating scores from scales is given in the relevant results sections, rather than here. Decisions were made for creating variables, which were based on plausibility, interpretability and theoretical interest.

As regards sample size, it was deemed that in all cases there was sufficient justification for carrying out factor analysis with the sample sizes in the studies and although not ideal in some cases, reflects the need to take a pragmatic approach to data analysis in line with recommendations in the fairly recent literature on this issue (De Winter, Dodou, & Wieringa, 2009; Sapnas & Zeller, 2002).

3.4.2.5.3 Reliability testing using Cronbach alpha

In order to produce valid scores, items in a scale need to measure the same construct and are therefore correlated with each other. The standard measure for estimating such internal consistency is Cronbach alpha (Cronbach, 1951), although other measure of reliability such as split-half also feature in the literature (Robinson, Shaver, & Wrightsman, 1991). Psychological scales were reported in several places in this research, and as is customary, reliability coefficients indicating the internal consistency of each measure were examined and reported.

Guidance on what constitutes an acceptable level of alpha is mixed, but depending on the purpose of the study (preliminary, basic or applied research) generally alpha ranges between .7 to .9. Peterson (1994) conducted a meta-analysis of studies and found the average alpha level reported in the literature to be .77. His suggestion is that some of

the prescribed alphas for applied research (e.g. $\alpha > .9$ for applied studies, Nunally & Bernstein, 1994) are too high since very few studies reach this reliability level. The difference between studies reporting alphas larger than .9 and smaller than .9 seem to be attributable to differences in scale size (e.g. number of items) and sample size, although when accounting for the effect of the number of items in each scale and sample size Peterson (1994) showed that overall Cronbach alpha levels do not, as expected, increase with the number of items or participants. Instead alpha appears to vary more depending on the construct rather than the underlying design. More recently work suggests that Alpha, as well as other forms of reliability, may be susceptible to differences in sample size but in a nonlinear fashion (Javali, 2011). The implication of nonlinearity would mean studies with different size samples, are difficult to compare, even when the same measure of reliability is used.

A general misconception in research citing reliability is the idea that high values of Cronbach alpha are always desirable. Boyle (1991) provides a detailed discussion of this issue, in particular, focussing on the effect of so-called bloated specifics (Cattell, 1978). Bloated specifics occur when items are similar to each other in wording or content leading to high item intercorrelations, and thus leading to inflation of the reliability coefficients. Items in better and more valid scales should therefore not be highly intercorrelated. A more pragmatic view of Cronbach alpha is to treat it as a measure of the degree of item-redundancy and item-narrowness in a scale, with higher values of Cronbach indicating greater redundancy of items and greater narrowness (Boyle, 1985). The practical implication of using scales with very high reliability coefficients is that they may be of limited use in research (Boyle, 1991). Furthermore, scales with high reliabilities may contribute to a lack of validity when tests are used in different cultures, especially if items present in the scale are culture-specific. This affects regression when variables that

are expressions of a construct, but only over a limited range, advantage some respondents but not others.

There are a number of alternatives to Cronbach alpha (Peterson & Kim, 2013). One example from trust research is Galvin, Ahuja, & Agarwal (2006) who report a study looking at dispositional trust in virtual teams. They argue similarly to Boyle (1991) that Cronbach alpha estimates are dependent on the number of items on the scale, which lead to potential problems of reliability, especially for short scales. Furthermore, estimates of reliability such as Cronbach alpha do not provide any direct evidence of validity and may even be an indication of a lack of validity. They suggest that the approach to internal consistency estimation based on structural equation modelling presented by Fornell & Larcker et al. (1981) appears to offer the best solution for both problems. It appears this approach to reliability and validity estimation has not been adopted widely across the trust literature, although the approach appears to be often cited in the wider literature.

The debate on reliability benchmarks and variability in estimates of reliability cannot be pursued further as part of this research. For the purpose of this thesis, Cronbach alpha was used in line with standard reporting practices. However, rather than mechanistically comparing scales, Cronbach alpha was used as a tool, aimed at guiding the decision-making around which further analyses to perform, how to perform them and also how to combine items into scales. The use of reliability indicators is further discussed below in relation to the different notions of reliability and validity stemming from a mixed methods approach.

3.4.2.5.4 Mediation/Moderation

In recruitment and selection and trust research, previous evidence suggests multiple variables interacting with each other. Such relationships cannot be adequately

described using simple correlations. More sophisticated techniques are required to clarify the relationship between variables and develop statistical models that provide insights into possible causal paths. Mediation and moderation are two ways in which variables can be related within a path model. In the case of a simple regression, a predictor variable has a relationship with a dependent variable. However, a situation can arise where a third variable better explains the path between the predictor and the dependent variable. This is an example of mediation. In moderation the relationship between the relationship between the predictor and the dependent variable only holds true for certain levels of a moderator variable. More complex, multivariate designs are possible (Hayes, 2009). However, for the purpose of the work presented in chapter 8, there is only one further scenario, namely a moderated mediation, a mediated relationship that is dependent on a moderator that influences the strength of the mediated path. Figure 3.1 below illustrates the different types of relationships involved in mediation and moderation

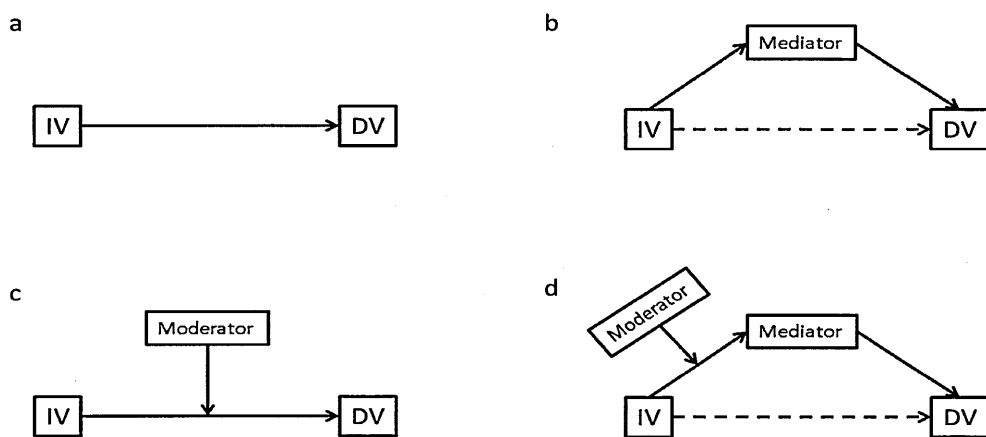


Figure 3.1 simple regression (a), mediation (b), moderation (c) and mediated moderation (d)

In chapter 8 a test of a mediation model and a moderated mediation model are described and presented. Bootstrapping in MPLUS was used to run the analytic steps required for testing mediation. This approach is based on the recommendations by Baron

& Kenny (1986) and the extensions by Hayes and others (Hayes, 2009; Zhao, Lynch, & Chen, 2010). There were a number of challenges and limitation with this analysis, which are discussed further in chapter 8, in relation to sampling, bootstrapping and model fit.

3.4.2.6 Qualitative analysis of survey data using template analysis

In addition to supporting quantitative data analysis, the longitudinal study described in chapters 7 and 8 was designed to collect qualitative data (described in chapter 9). The purpose of this was to allow the view of applicants to be based on their own descriptions, rather than perspectives imposed by the researcher and inferences generated by statistical analyses. The aim of mixing quantitative and qualitative approaches lies in triangulating and corroborating observations made elsewhere, as well as providing a richer view of the context under investigation. As has already been discussed above, this mixing is a feature of mixed methods approaches, and a pragmatic realist perspective is appropriate for considering how these different sources of data speak to each other.

In qualitative research, as opposed to quantitative research, but within a mixed methods framework, the role and position of the researcher is very much placed in the foreground. Thus interpretation without some positioning of the researcher in the frame of the sense making that is involved seems unthinkable, (Cassell & Symon, 1994; Creswell, Plano Clark, Gutmann, & Hanson, 2003; Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2003). The general approach used for the analysis of qualitative data in the present study follows two main, compatible directions: that of a general inductive approach (Thomas, 2006) and template analysis (Crabtree & Miller, 1999; King, 2004).

The general inductive approach is useful in service research for the purpose of summarising evaluative data (Kwan & Tsang, 2001; Searle & Patent, 2012). This is also

appropriate for the present study as the context for the research was evaluative of the research school's recruitment process for research students. The steps in using a general inductive approach are iterative (as is template analysis), but really describes a wide range of different approaches to data analysis in which template analysis is just one of several possible methods that could be adopted. By its nature the general inductive approach is pragmatic, since inferences about the world are emergent from the process of data analysis, specifically, the comments made by individual participants.

Template analysis is a practice of iterative data grouping and interpretation by which a researcher constructs a thematic template that codes, describes and outline the data corpus (Crabtree & Miller, 1999; King, 1998). Template analysis is a reasonably well-established technique and has been extensively described and publicised by King (1998, 2004). It shares similarities with content analysis, but differs in that the codebook is revised under scrutiny of textual data, and the emerging thematic pattern of themes are usually not interpreted statistically but qualitatively (King, 1994). Nevertheless, as King comments on his website (King, 2012), statistical rather than qualitative quality checks are sometimes carried out to assess reliability of the coding frame. However, this implies notions of 'correctness' in the coding, and would seem to undermine a more social constructivist, interpretivist position. Regardless of whether quantitative or qualitative checks on data quality are used, King points out:

It is vital to recognise that none of the above approaches is about asking someone else to 'confirm' that your analytical decisions are 'correct'. Rather they are all ways to help you to reflect on the process, by forcing you to think about alternatives that you might have overlooked, or dismissed without proper consideration. If, on careful reflection, you do not agree with suggestions made by

an independent scrutiniser of your analysis, you are under no obligation to act on them. (King, 2012)

Regardless of whether one adopts quantitative 'diagnostics' or not, the process should remain reflexive. This is also the methodological approach taken by others who have adopted quantitative approaches of checking the quality of the template construction (cf. Au, 2007). In practice this means that there may invariably be assumptions made along the way of checking the quality of the template. It is impractical for the purposes of this research to account for them all and in chapter 9 no attempt will be made to do so. However, wherever possible the assumptional nature of interpretations will be flagged to ensure that the account remains reflexive.

3.4.3 Issues relating to control of data quality

As a result of proliferation of distinct measures of trust, often with weak psychometric qualities, issues about reliability and validity of measurement used in existing research emerge. The review of literature and the work carried out on propensity of trust (chapters 4,5 and 6) highlighted potential problems in using existing measures without considering the underlying dimensions these measures reflect. During the analysis stages of the present research, especially that reported in chapter 5, 7 and 8, I focused on the technical literature on factor analysis to ensure that I was able to monitor the quality of the statistically derived constructs and to guard against over-interpretation, particularly in the context of lower than desirable sample sizes and limitations arising from assumptions for statistical tests. Considering that surveys were the dominant tool used in this research, the literature on survey responding was particularly relevant here, in particular work on non-respondents (Goyder, 1988).

One particular issue affecting the qualitative work in this study was the dilemma of using quantitative measures of data quality in the form of rater and coder reliability. The purpose of calculating such indices (percent agreement and Krippendorff alpha) was to provide metrics and to guide the decision-making process during interpretation. However, there is also support in the literature (King, 2012) for adopting less rigid ways of using coder reliability coefficients without reverting into positivism. Even when there is little rater-agreement some would argue (e.g. King, 2012) that interpretations based on such data can nevertheless be meaningful in the context of theoretical discussions.

3.4.4 Revisiting reliability and validity in mixed methods research

Reliability and validity are important issues in mixed method research and provide researchers with a means for checking the quality of their data and subsequent interpretations. However, these issues may occupy quite different ontological and epistemological spaces, and thus potentially become problematic, since notions of what constitutes quality differ between these two approaches.

In quantitative research there is an emphasis on the idea that behaviours and psychological states can be measured. Furthermore, such measures can be studied and evaluated with reference to reliability (consistency and stability of measures) and validity (a measure of the degree to what extent instruments used in research measure what they purport to measure; Bryman, 2008b). These elements are usually assessed using statistical or correlational techniques, which indicate the strength of relationship between variables or items as indicators of validity and reliability. Quantitative researchers view reliability and validity as interconnected and usually consider a measure that is high in reliability as also having some validity. Ideal scenarios exist when both the reliability and validity of the measure is high, and there a number of benchmarks for what constitutes high (cf. Nunnally, 1978; Robinson et al., 1991). Decisions regarding the valid

combination of items into scale scores are typically based on evidence from reliability analysis and from considering factorial replicability (e.g. whether scales reproduce the factor structure of their original publication). Another way of assessing validity lies in the use of goodness of fit tests which are usually viewed as estimates of model validity, where the closeness of the predicted vs. the actual data is the basis for providing a measure of fit and hence of model validity. However, one should probably not assume that a model that fits well provides the only valid account, but just that it is probably better than a model which does not have as high a degree of fit. This type of approach was used in the factor analytic work as well as some of the regression analyses reported in chapters 7 and 8.

Some would argue that reliability and validity do not really have a place in qualitative research. Reliability as a standardising effort (e.g. how much deviation there is between individual points of data collection, and hence how much deviation there is in responses as a result) is an anathema to qualitative research since qualitative approaches are by their very nature variable (Long & Johnson, 2000). Instead of using the language of standardisation, qualitative researchers prefer the term *dependability* instead of reliability, referring not to a criterion (e.g. acceptable alpha coefficient), but to the means by which data is collected. To assess it, an audit trail of the decision-making process is used. However as Long & Johnson (2000) conclude, that a concept such as...

...reliability, recognized as pertaining to the stability of data-collection measures remains an unimportant notion. Rather than attempting to hide behind a smokescreen of synonyms, perhaps interpretative researchers ought simply to accept that reliability is unlikely to be a demonstrable strength of their work.

Although efforts may be made to enhance a study's reliability, in most cases the

nature of the data and sample make this practically hopeless. (Long & Johnson, 2000, p. 32)

Similarly, there is no unified position around the epistemological status of the concept of validity. It is often replaced with the idea of credibility (Guba & Lincoln, 1989, pp. 234-236) and some authors detect different distinctions between sources of credibility (e.g. adequacy, coherence, complexity, consensus, reflexivity, mutualism, honesty and relevance; Hall & Stevens, 1991). Even so, such distinctions are not universally agreed upon. More recently, Morse, Barrett, Mayan, Olson, & Spiers (2008) discussed verification strategies for determining rigour in qualitative research and argue that rather than employing post hoc measures of validity, strategies by which quality and rigour are achieved are iterative and ongoing (Morse, Barrett, Mayan, Olson, & Spiers, 2008, p. 16)

Reflecting on the present research and the mixed-ness of the approach for parts of the empirical work reported here, a conclusion arising from the use of mixed methods is that the nature of the data may differ as may be the quality of the results that can be reported. Furthermore, quantitative and qualitative methods have very different procedures for generating interpretation, which may be specific to the technical aspects of the method used. However, considering the discussion of reliability and validity above raises the issue to what extent the overarching meta-process is very similar regardless of the quantitative or qualitative nature of analysis. Both are iterative and consider quality at each stage in the process, regardless of whether the research design is quantitative or qualitative. Consideration of the quality of research as an outcome of research itself exposes limitations that are method specific, but interestingly these also raise new question. Thus, rather than viewing reliability and validity purely as an endeavour to defend findings, the insights gained from questioning quality seem to bring forth new

theoretical thinking and as such one should argue that messiness of research findings (e.g. resulting from inadequate or incomplete sampling, and known design limitations) can actually drive new thinking which is a valid outcome of research.

3.4.5 Reflexivity and interpretation

Reflexivity is a term that is more commonly found in qualitative methods rather than quantitative methods. For some researchers reflexivity is a central part of research, specifically in the process of coding and interpreting meaning. It exposes the subjective role of the researcher in the process of data analysis and interpretative work. What is meant by reflexivity is captured by Alvesson & Sköldbberg (2009) who describe its concern as presenting a shift away...

...from the handling of empirical material towards as far as possible a consideration of the perceptual cognitive, theoretical linguistic, (inter) textual, political and cultural circumstances that form the backdrop to- as well as impregnate the interpretations. These circumstances make the interpretations possible, but to varying degree they also mean that research becomes in part a naïve and unconscious undertaking. For example, it is difficult, if not by definition impossible for the researchers to clarify the taken-for-granted assumptions and blind spots in their own social culture, research community and language.

(Alvesson & Sköldbberg, 2009, p. 9)

However, the term reflexivity is used in different ways by different authors, which implies a lack of consensus and confusion about the term (Orr & Bennett, 2009). This confusion may also be attributable to the different epistemological and ontological approaches that encourage different types of reflexivity (Coghlan & Brannick, 2009).

Reflexivity can be contrasted with mere reflection or introspection. Systematic reflexivity entails constant analysis of one's own theoretical and methodological assumptions and can be said to be ubiquitous in the research process (Brannick & Coghlan, 2006). Some writers distinguish between three main forms of reflexivity (Johnson & Duberley, 2000, p. 178; Johnson & Duberley, 2003) that are aligned with the epistemological and ontological positions of the researcher (Coghlan & Brannick, 2009).

These are:

1. Epistemic reflexivity (focus and examination of the researcher's system of beliefs and assumptions),
2. Methodological reflexivity (focus on the impact of the researcher's behaviour on the research setting) and
3. Hyper reflexivity (focus on deconstructing discourses including one's own discourse of deconstruction). These three forms are broadly aligned with positivism, critical realism and constructivism.

Johnson and Duberley (2000) observe the tendencies of researchers from different reflexive positions to argue against each other's' approaches and conceptions of reflexivity, and Lynch (2000) observes the tendency of reflexivity to be viewed purely as a characteristic of radical, theoretical and critical programmes used to deconstruct programmes of research that are 'un-reflexive'. In particular, the point made by Lynch (2000) is that reflexivity should not be seen as an academic 'virtue' by which research is judged. Instead, he argues that it is impossible to be non-reflexive and that reflexivity is dependent on conceptions of human nature and social reality that are more central to interpretation in some fields than others. The implication for mixed method research appears to be dependent on what methods are used; reflexivity may play a stronger part in some areas of a study than others. For example in interpreting qualitative data, the

personal assumptions held by a researcher may be far more detrimental to interpretation than in interpreting quantitative data.

Ryan & Golden (2006) provide an example of the constraints of bringing a reflexive argument to bear in the reporting of quantitative contract research. They highlight two benefits of a reflexive approach in predominantly quantitative research. Firstly, a quantitative study can inform a subsequent qualitative study based on the reflexive insights that are gained during the research process of quantitative work. The second benefit relates to tracking and responding to the impact of doing research, particularly in sensitive areas. One reason why there are few studies reporting the use of reflexivity in quantitatively oriented studies is that the pressures for results and publications in contract research leave little time for engaging with reflexivity in a purely pragmatic rather than theory or methodologically guided way.

In the studies reported in the following chapters, a reflexive approach was taken throughout. This guided the choice of research methods and research questions. For example, the factor-analytic work emerged from recognition of problems of measurement and potential assumptions over the interpretation of propensity-to-trust scales in a study of live applicants, thereby prompting the direction taken. Responses of participants during the content analysis and card-sort also provided an insight into assumptions about how best to interpret the conflicting findings emerging from the different elements of the study on propensity to trust. Similarly, the open questions used in the applicant surveys were aimed at providing a richer picture of the applicants, in order to challenge assumptions and triangulate with interpretations of quantitative analyses carried out on 'tick box data'. In this study my own experience as a former applicant influenced the categorisation and selectivity in coding and interpretation in addition to my developing theoretical understanding of applicant's experience.

3.5 Summary

In chapter 1 I provided an overview of the research questions addressed in this thesis. In chapter 2 I outlined the various empirical and theoretical departures in the field providing the rationale for carrying out work in this area. Before detailing the empirical work carried out in answering the various research questions (Chapters 4 to 9) the present chapter outlined the methods, general approaches and philosophical underpinnings for this research which frame this work within a mixed method paradigm. The following table (table 3.6) summarises the relationship between the methods and broader research questions and illustrates the mixing of methods applied in the research presented in the subsequent chapters.

Table 3.6

Summary of methods and their alignment to research questions

Method		Critical review	Content analysis	Survey		Card sort	Template analysis	
Chapters	2,3,4,7,8,9	4	5	7	8	6	9	9
Participants	n/a	N=2	N=368	N=156	N=43	N=9	N=149	N=45
Research question								
A1	What dimensions are found in existing measures of propensity to trust?	✓	✓	✓		✓		
A2	How consistent are these dimensions across different scales?	✓	✓	✓				
A3	How are dimensions of propensity to trust related to different factors of personality?	✓		✓				
A4	What are the implications of scale content to interpreting data produced with different propensity-to-trust scales or items?			✓	✓	✓		
A5	Are there any measures of propensity to trust that are more suitable for this research than others in terms of their validity, scope and other characteristics?	✓	✓	✓		✓		
B1	How do propensity to trust, perceptions of justice and organisational trustworthiness influence applicant reactions and recruitment outcomes?	✓			✓	✓	✓	
B2	How do justice and organisational trustworthiness perceptions influence each other for example in dynamic contexts at different stages.	✓				✓		✓
B3	How does propensity to trust influence the relationship between justice and trustworthiness perceptions?	✓			✓	✓		
B4	How do the concerns and contexts of applicants during recruitment and selection relate to concepts of justice and trust?						✓	✓
M1	What are the implications of sample size on the use of different types of analyses? What are the alternatives?	✓		✓	✓	✓		
M2	How do we understand bias arising from the use of surveys in this study?	✓		✓	✓	✓		
M3	How can results produced by quantitative approaches to data analysis link with results from qualitative data analysis?	✓					✓	✓
M4	What other methodological approaches are needed to address methodological problems in the present research?	✓				✓	✓	✓
M5	How do the different pieces of evidence fit together to make a whole?			✓	✓	✓	✓	✓

Chapter 4 - A critical review of propensity-to-trust measures

4.1 Introduction

As discussed previously in chapter 2, propensity to trust serves an important role as an antecedent in models of organisational and individual trust. In recruitment and selection contexts, its role as an antecedent to justice, trustworthiness perceptions, attraction and other recruitment and selection outcomes is relatively under researched (Celani et al., 2008; Kausel & Slaughter, 2011; Klotz et al., 2013; Searle & Billsberry, 2011). Considering the importance of its reliability and validation (Lewicki et al., 2005) there has been little work investigating content or performance of propensity-to-trust scales yet propensity to trust is presumed as if it were a personality variable. Considering its role in theoretical models, propensity to trust is also underexplored in relation to the distinction between trust and other concepts (e.g. distrust; for discussion see chapter 2). As a result, there are serious questions about how well the content of individual propensity scales fits existing theory, and how one should therefore interpret measures of this construct.

A clearer view of the robustness of propensity-to-trust scales is required to provide greater understanding of current and at times conflicting research findings. Currently, there do not appear to be any published reviews with the purpose of evaluating the quality and content of propensity to trust measures, and the purpose of the next part of this chapter aims to address this omission. The following section reviews a number of propensity-to-trust scales and examines their characteristics. This is followed by identification and discussion of common problems impacting on interpretation and usefulness of different measures.

4.2 Review of propensity-to-trust measures

The approach adopted in this section is to present information about the scales in tabular form. Before this is presented, section 4.3.1 provides details of the method for searching the literature for scales.

4.2.1 Surveying propensity-to-trust measures

A number of different propensity-to-trust measures exist. In order to identify relevant measures an initial search was undertaken of the literature followed by identification of the scales used in Colquitt et al.'s (2007) meta-analysis. Using Colquitt et al.'s (2007) methodology the terms 'propensity to trust', 'dispositional trust' 'generalized trust' and 'interpersonal trust', were entered into a variety of search engine and data bases (Google scholar, Web of Science and PsycINFO; see outline of approach in chapter 3, section 3.4.1).

Only those scales referring to a general tendency to trust others were included in this review. Further inclusion criteria distinguished measures used in organizational settings which had general relevance to labour market behaviours (unemployment, employment). Measurement tools that were confined to purely experimental research, clinical populations or dyadic personal relationships were not included. Due to the relevance of job-marketing perspectives in recruitment and selection research (see also chapter 2, section 2.3.1.2) propensity-to-trust scales used in marketing contexts were also included. This review further identified articles which included information on the psychometric properties, particularly factorial structure, scale reliability and where applicable, data on validation and scale construction. This approach initially identified eleven measures which included information that identified them as propensity-to-trust scales. Two further scales were added in a subsequent update to the review.

4.2.2 Review summary

The thirteen scales are summarised below (see table 4.1) in chronological order as a means of providing a historic perspective to the development of these scales.

Table 4.1

Summary of propensity-to-trust scales

<i>Scale name</i>	<i>Number of items</i>	<i>Response scale</i>	<i>Issues</i>
Rosenberg (1956) <i>Faith in people</i>	5 items	Guttman response scale	<ol style="list-style-type: none"> 1. Scale only allows dichotomous responses 2. Response options in each item are effectively individual items (Miller & Mitamura, 2003) 3. Operationalisation as outcome in surveys 4. Allows historic comparison due to its widespread use in social surveys; single item 'standard question' (Uslaner, 2012), but this confounds trust and caution (Miller & Mitamura, 2003). 5. Reliability: Alpha=.86 - .92 (Driscoll, 1978; Roberts, 1971; Rosenberg, 1956) 6. No data on factor structure
Wrightsman (1964) <i>Trustworthiness scale of 6 factor Philosophies of Human Nature (PHN) measure</i>	14 items	6 point Likert	<ol style="list-style-type: none"> 1. Items describe extent to which a respondent views others as moral honest and reliable 2. Items reflect beliefs about norm of reciprocity, ability and integrity dimensions of trustworthiness 3. Reliability: split half, $r=0.74$; test retest, $r=0.74$ (Wrightsman, 1964; Wrightsman & Wuescher, 1974) 4. Convergent validity: Faith in people scale; $r=0.77$ 5. Little evidence in support of factorial structure of the PHN 6 factors model; no clustering of items within the scale.
(Roberts, 1967, p. 4) <i>Trust in people 3 item version of Faith in people scale</i>	3 items	Guttman response scale	<ol style="list-style-type: none"> 1. Same as above plus 2. Reliability: Alpha =.66 (Simpson & McGrimmon, 2008) 3. No data on factor structure

Table 4.1 Continued from previous page

Scale name	Number of items	Response scale	Issues
Rotter (1967) <i>Interpersonal trust scale</i>	25 items	5 point Likert agreement	<ol style="list-style-type: none"> 1. Factor structure dependent on direction of item wording (Wright & Tedeschi, 1975; p.472) 2. Scale length 3. Scale relevance and problematic items (e.g. sales people) 4. Reliability: Split half = .76; Test retest: 3 months=.68; 7 months .56; Alpha = .64; .27 to .60 for subscales (Chun & Campbell, 1974; Hunt, Kohn, & Mallozzi, 1983) 5. Support for 3 factors: 'exploitation', 'sincerity' and 'institutional trust' (Hunt, et al., 1983; Wright & Tedeschi, 1975)
Schuessler (1982) <i>Trustworthiness of people</i>	8 items	7 point Likert agreement	<ol style="list-style-type: none"> 1. Scale could be viewed as distrust scale as its relevant for assessing alienation (Robinson et al., 1991) 2. Scale may be sensitive to context in which it is applied Krebs & Schuessler (1989) 3. Reliability: Alpha= .70 to.86 (Bianchi & Brockner, 2012; Davidson & Friedman, 1998; Roberts et al., 2004; Schuessler, 1982) 4. No data on factor structure
Costa & McCrae (1985) <i>Trust subscale, NEO personality inventory</i>	8 items	5 point Likert agreement	<ol style="list-style-type: none"> 1. Established personality model & good research base 2. Good validity with other trust measures (Couch, Adams, & Jones, 1996) 3. Agreeableness scale varies more widely with different national samples (McCrae, 2001) 4. Trust & distrust & item polarity effects 5. Reliability: Alpha=0.85-.90 (Costa & McCrae, 1985; Ferrer, Connell, & Travaglione, 2004) 6. Trust scale based on factor analytic research on the NEO; subscale of agreeableness factor

Table 4.1 Continued from previous page

Scale name	Number of items	Response scale	Issues
Yamagishi (1986) <i>General level of trust scale</i>	5 items	5 point Likert agreement	<ol style="list-style-type: none"> 1. Trust and caution 2. Research base is largely in economics rather than organisation 3. Reliability: Alpha=.77 to .79 (De Cremer, Snyder, & Dewitte, 2001; Van Kleef, De Dreu, & Manstead, 2006) 4. Factor analysis supports two factors; trust and caution (Yamagishi, Kikuchi, & Kosugi, 1999)
Schoorman, Mayer & Davis (1996) <i>Trust propensity scale</i>	8 items	5 point Likert agreement	<ol style="list-style-type: none"> 1. Items based on Rotter scale 2. Influence of respondents' past domain experience (sales people) 3. Single problematic items have greater effect in a shorter scale 4. Reliability: Alpha =.55 to .66; (Gill, Boies, Finegan, & McNally, 2005; Mayer & Davis, 1999) 5. No data on factor structure
Cheung & Lee (2000) & Chen & Barnes (2007) <i>Consumer trust propensity</i>	4 items	7 point Likert agreement scale	<ol style="list-style-type: none"> 1. Item similarity 2. Use of term trust 3. Item ambiguity, e.g. difference between trusting person or thing 4. Reliability: Alpha=.83 to .93; (Koufaris & Hampton-Sosa, 2004; Cheung & Lee, 2000) 5. Validation via principal components analysis
Huff & Kelley (2005) ^o <i>Propensity to trust</i> <i>Propensity to distrust</i>	5 items Propensity to trust 8 items propensity to distrust	7 point Likert agreement scale	<ol style="list-style-type: none"> 1. Reliability aggregate P2T =.78;P2D=.80 but showing variation between countries ranging from .72-.83 for P2T and .63-.82 for P2D 2. No Factor analysis reported 3. No adoption of scale by others 4. Some overlap of items with other scales
Valenzuela, Park, & Kee (2008) <i>Social trust scale</i>	5 items	5 point Likert agreement scale	<ol style="list-style-type: none"> 1. Revision of Rosenberg scale 2. Research base in online forms of trust 3. Lack of adoption by others 4. Reliability: Alpha=.76 (Valenzuela et al., 2008) 5. No data on factor structure

Table 4.1 Continued from previous page

Scale name	Number of items	Response scale	Issues
<i>Evans & Revelle (2008) Propensity to trust</i>	21 items 7 trust items & 14 trustworthy items	Not reported but appears to be 6 point Likert agreement scale	<ol style="list-style-type: none"> 1. Derived from IPIP, so comparable with others using same personality measure 2. Based on Five factor model 3. Social desirability in trustworthiness responses 4. Item polarity and wording 5. Reliability: Alpha = .73 (trustworthiness) & .80 (trust) (Evans & Revelle, 2008) 6. Factor analysis: Trustworthy scale (how trustworthy respondent is) and trust scale (how much they trust others)
<i>Ashleigh, Higgs, & Dulewicz (2012)^a Propensity to trust</i>	20 items	7 point Likert agreement	<ol style="list-style-type: none"> 1. New scale, no other work on the scale 2. Some correspondence with ABI 3. Caution/risk or distrust 4. Item polarity 5. Reliability: Alpha .72 to .86 for three factor scale 6. Factor analysis: Good fit for single factor and three factor scale (trusting others, reliability and integrity and risk aversion)

^aThis scale was added to the review after the first draft of this chapter and after the content analysis discussed further below. It is included here, but was not content analysed during the original content analysis and is therefore not included in the factor analysis and card-sort in chapters 5 and 6

4.3 Emerging issues

In undertaking this review, several issues emerged which are discussed in the following sections.

4.3.1 Propensity to trust is multidimensional

The review of scales and inspection of items seemed to imply multiple dimensions within propensity-to-trust scales. This is in contrast with the general notion that propensity to trust is a univariate personality construct that influences people's trusting stance. Previous literature also supports multidimensionality through evidence of factor structure in a few larger scales, for example Rotter's Interpersonal trust scale (Rotter,

1967) and more recently Ashleigh et al. (2012). One of the problems of comparing propensity-to-trust scales is a lack of consistent factor structure, with many scales originally designed to measure propensity to trust as a single factor. Previous evidence of factor studies suggests around three or four factors are typical (Ashleigh et al., 2012; Chun & Campbell, 1974; Hunt et al., 1983; Wright & Tedeschi, 1975). A common pattern within this is the emergence of contrasting positive trust and distrust/caution factor (including the above and Huff & Kelley, 2005; Yamagishi et al., 1999). Further dimensions include institutional trust, and role expectations (judgments of how reliable others are), although these appear to be less robust (Ashleigh et al., 2012; Chun & Campbell, 1974; Hunt et al., 1983).

Content analysis was used in the present review to identify relevant dimensions across all the identified scales. A coding frame was generated by the author a priori using the dimensions reported in studies reporting factor structures (Chun & Campbell, 1974; Kaplan, 1973; Wright & Tedeschi, 1975; Yamagishi et al., 1999), and on an a posteriori basis using an intuitive, iterative process based on emergence of themes from the item pool. This approach produced an initial set of nine dimensions plus one general dimension (Table 4.2 below).

The author and one of the PhD supervisors coded items for all scales (except Ashleigh et al., 2012 and Huff & Kelley, 2005) using the coding frame in table 4.2 below.

Despite prior discussion of the codes, there was a large degree of difference in codes assigned between the two coders. Overall coder agreement was 48%.

Discrepancies in coding suggested three potential issues: with items, the labels used in the coding frame and with the coding process.

Table 4.2

Codes for 10 dimensions of propensity to trust

<i>Dimension</i>	<i>Code</i>	<i>Descriptions</i>
Institutional trust	I	Items deal with beliefs about political institutions, society level or other aggregate level parties in which to trust
Belief in Sincerity , honesty	S	Items refer to people being sincere or honest
Caution	C	Items refer to the need to be alert, or cautious
Beliefs' about specific Role expectation	RE	Items refer to beliefs about specific groups of people, salespeople, parents, students and others
Beliefs in reciprocity	Rec	Items referred to believing that trust would be reciprocated
Beliefs about people's cooperativeness	Coop	Items in this category referred to belief in people's cooperativeness
Human nature	HN	Items in this category referred to beliefs about human nature, general reliability and being able to count on people's nature
Exploitation	E	Items in this category referred to beliefs about the risk of exploitation and being taken advantage of.
Personalistic	P	Items are framed as self-reports describing specific personality traits (not featuring in any of the other categories)
General	G	Items in this category referred to a self-reported, general tendency to trust

An obvious initial challenge in coding is item ambiguity (see section 4.3.6 for further discussion below). Such ambiguities not only increase measurement error, but also make it more difficult to classify items into categories. However, item ambiguities alone do not account adequately for the wide discrepancies in coding. A further problem may be that the codes and categories used were ambiguous. The categories employed reflected those identified in different factor studies, and to some extent this creates overlap. For example, items in studies of Rotter's interpersonal trust scale different factor loadings were observed and items may be accounted for in either one of these factor solutions. However, in the coding frame employed in this study both factor labels were used (for example caution and exploitation) thereby creating ambiguities in categorisation since it may not be clear when an item reaches the threshold required for the caution category vs the exploitation category.

Experience level of trust research may also have been a confounding factor between the coders. Codes assigned by the supervisor supervising this thesis may have been influenced by reading into the items at a deeper level of theory. In contrast, the content analysis was conducted relatively early in the PhD and thus my own knowledge of trust, in particular application of theory to situational and dynamic contexts was still developing. Thus, difference between the two coders may be the difference between more literal interpretations of the items at the sentence/statement level vs interpretation of the items on the theoretical construct level.

In order to address discrepancies between coders, a shorter coding frame with five dimensions was produced based on first order categories (Refer to table 4.3 below).

Table 4.3

Second order codes for 5 dimensions

Dimension	First order	New code
Institutional/Political	IT	IT2
Favourable/Unfavourable human nature	S, HN Coop	HN2
Vulnerability	C & E	V2
Expectations	RE & Rec	E2
General	G & P	G2

The sincerity, cooperation, and human nature categories were recombined to form a single 'human nature' (HN2) code, which comprises those items referring to people's tendency to act in sincere, honest, altruistic or otherwise benign ways. A second group of aggregated coding focused on those items which described situations in which people become vulnerable as a result of other people's actions, and those focusing on situations in which people should be cautious and unwilling to be vulnerable as they would otherwise be taken advantage of. Therefore, exploitation and caution items were

recombined into a 'vulnerability' (V2) category. Similarly, 'expectations' was a new code combining role expectations and reciprocity expectations (E2). In contrast, Institutional (IT2) and general categories (G2) were left unchanged. After re-categorization and percent agreement recalculation, coder agreement improved (57%).

Based on these new codes, a mapping of dimensions across the scales was carried out, in order to illustrate the dimension space for propensity to trust. A decision was made to utilize the author's original codings with some modifications based on what was learned from the coding process and discrepancies. Table 4.4 below records which of the five dimensions (or domains) are present within each of the scales examined in this review.

The analysis revealed that scales differed in the dimensions they assess (see table 4.4 below.). Most measures included at least three, more frequently defined by those items capturing beliefs about human nature (HN) and willingness to be vulnerable (V). In contrast, the institutional trust code was only used twice. Three of the nine scales included items which covered expectations (including expectation of reciprocity and role expectations). Most scales contained items that fitted a general category. It should be noted that one of the main differences between coders was disagreement on when an item was general, and when it reflected an aspect of a favourable view of human nature (e.g. cooperation or sincerity).

Despite some issues with coder agreement, the evidence from this content analysis reveals the presence of multiple dimensions of propensity to trust within almost all of the reviewed scales. The following sections will now discuss pertinent issues that provide some further insight into this.

Table 4.4

Mapping of propensity-to-trust scales across 5 dimensions

<i>Scale</i>	<i>Dimension</i>				Domains covered	
	Institutional trust IT	Favourable/Unfavourable Human nature HN	Vulnerability V	Role expectation R		General G
Philosophies of Human Nature (Wrightsmen, 1964, 1974)		•	•	•		3
Faith in people, Global Trust (Rosenberg, 1956)		•	•		•	3
Social Trust Scale (2008)		•	•		•	3
Trust propensity scale (Schoorman, Mayer, & Davis, 1996)		•	•	•		3
Interpersonal trust scale (Rotter, 1967)	•	•	•	•	•	5
NEO Personality Inventory Revised (NEO PI-R, Costa and McCrae 1992)		•	•		•	3
Propensity-to-trust scale (Evans & Revelle, 2008)		•	•			2
Trust propensity (Cheung & Lee, 2000; Koufaris & Hampton-Sosa, 2004)					•	1
Consumer trust propensity (Chen & Barnes, 2007)					•	1
General level of trust (Yamagishi, 1986; Yukawa, 1985)	•	•	•			3
Trustworthiness of people (Schuessler, 1982)		•	•		•	3

4.3.2 Trust propensity and applications in different domains

Studies that have used measures of propensity to trust differ in terms of how they treat and interpret data relating to their particular conceptualization of the construct. In particular, many studies with a political focus have treated propensity as representing the trust between people and society, or simply how trusting the electorate are. Burns et al. (1967), for example, laments the tendency to cast trust in simple dispositional terms without considering the domain in which trust is considered.

The discussion of domain specificity centres on concern of what constructs are actually being measured. Looking at propensity-to-trust scales, examples of items show that some items are applicable to specific domains of experience referring to role expectations, parents, students, teachers, salespeople, (e.g. *Most salespeople are honest*) or institutions and some to organisational systems (e.g. *In their advertising and promotions, most businesses purposely mislead customers*). In line with Schoorman et al.'s (2007) assertion that experience is one of the main antecedents of propensity to trust, it is not problematic to have items that assess people's tendency to trust people whom they have experience of. However, when researching trust in a particular domain, it may be important to consider how such experiences relate to the domain.

The question of whether it matters that items in a propensity to trust include domain-specific references has received little debate. For example, if one were to study the role of propensity to trust on job applicants' perceptions of the recruiting organisation, should a propensity measure be reflective of experience and contact with the HR domain rather than based on experiences of individuals (e.g. salespeople, parents)? Are organisational referents (e.g. individuals, teams or systems) important? One possibility might be that people's tendency to trust in a given HR context draws on their prior experience of such systems, rather than the people in them. While a person's stance towards interviews might presume the company inviting them for an interview is interested in their potential contribution, and would treat them fairly and honestly, the same individual may be less likely to perceive a sales person selling a car being concerned about well-being but instead being more concerned about earning a commission.

Psychometric theory would suggest that scales are to be constructed so that scales sample from a universe of items and domains (Kline, 2000). The total score of a scale should therefore be a representative indication of propensity to trust across a

variety of different domains, with some bias stemming from how representative items are of the construct. This clearly becomes a problem where scales and items are loaded in favour of certain domains (for example Mayer & Schoorman, 1999), but are then used to measure propensity to trust in a domain that is poorly represented in the item space. Scores for global propensity to trust are then likely to be biased towards the effect produced by the contexts referred to in item content. This may also explain why some scales containing domain references have low reliability (e.g. Mayer & Davis, 1999; cf. Gill, et al., 2005), since these items may be less representative of the underlying construct being measured.

While scales should be kept relatively short to avoid respondent fatigue and to keep surveys short, it might be useful to consider adapting existing scales for use in particular domains. For example by changing existing items to refer to roles within a domain of interest, (e.g. supervisors) one can take experience with appropriate referents within the domain into account (e.g. individuals and institutions). Alternatively, one could statistically control for the effects of applicant experience when making predictions based on propensity to trust and other variables (for example by including age, experience and other relevant demographics). Further analysis of how people construe propensity-to-trust items may also help understand how context references elicit domain memory and response selection during survey completion.

4.3.3 Propensity to trust, distrust and caution

The content analysis carried out in the present research, suggests that many items fall into separate categories representing a positive *faith in people* type of trust and trust based on *perceived vulnerabilities* respectively. One might consider that believing that one is more vulnerable implies greater levels of distrust, although a sense of vulnerability

may also be an expression of risk perception, with caution being a response to risk, rather than to distrust.

In chapter 2 I discussed whether trust and distrust might be better treated as separate dimensions rather than a bipolar construct (Lewicki et al., 1998; Saunders & Thornhill, 2004; Saunders et al., 2014). Evidence from previous factor analyses reported above, suggests that negatively worded items in propensity-to-trust scales factor into a separate factor to positively worded items. One should however not assume that a negatively worded item (e.g. *I tend to be cynical and sceptical of others' intentions*) is the same as distrust (Ferres et al., 2004), although this is how some researchers have conceived it (Huff & Kelley, 2005; Miller & Mitamura, 2003). There appear to be few studies that have operationalized separate propensities to trust and distrust in a single study (cf. Huff & Kelley, 2005). Some researchers suggest that separating trust and distrust may not at all be necessary (Schoorman et al. 2007). However, recent neuropsychological research (see chapter 2) points to trust and distrust reflecting different neural processes and together with factor analytic evidence this supports the claim for at least two distinct processes at work (Dimoka, 2010).

Given that most previous studies have explored propensity to trust rather than distrust, it is not clear whether negative and positive items necessarily represent trust (positively worded) and distrust (negatively worded), or whether they are simply manifestations of item characteristics (e.g. effects of affirmative bias and item complexity). Further work is needed to understand how trust and distrust are reflected within the various propensity-to-trust scales.

As the content analysis has shown, many of the scales included items that were framed in terms of caution. Some previously published work supports the view that

caution is a distinct factor (Chun & Campbell, 1974; Yamagishi et al., 1999; Yamagishi & Yamagishi, 1994) but there have been few systematic investigations of propensity to trust and caution, with caution usually not separated in studies that use propensity-to-trust scales. Findings suggest that how questions are framed may directly influence results and complicate interpretation of propensity-to-trust scales in which trust and caution are conflated.

A good example can be found in the *standard question* (Rosenberg, 1957; Uslaner, 2012), a Guttman response scale item which has two conceptually distinct poles of trust and caution. Large social surveys using this item show women to be more risk averse (Miller & Stark, Byrnes, Miller, & Schafer, 1999; 2002; Zuckerman, 1994), and less trusting than men (Miller & Mitamura 2003, p. 64). Furthermore as shown by Miller & Matamura (2003) depending on how trust and caution are framed within an item and depending on which single items (Guttman type or Likert) are implemented, illusory differences between national groups can also be produced that generate conflicting results (e.g. Japanese higher on dispositional trust).

Miller & Mitamura demonstrated this effect by constructing two 4-item scales so as to tap into which relationships respondents would either trust or be cautious of (e.g. neighbours, people at school, acquaintances and strangers). They showed that when framed in terms of caution, judgements about different groups of people cluster into separate factors in contrast with those framed in terms of trust. Their Principal component analysis confirmed that there were two different subscales corresponding to the framing of the relationships in trust and caution terms. Finally, their logistic regression analysis showed that, when controlling for the effects of caution vs trust, cross-national differences between Japanese and US samples that were apparent from

earlier responses on the dichotomous trust/caution item, disappear. This leads to the conclusion that the trust vs caution distinction should be considered as separate variables that have potentially confounding effects on propensity-to-trust scores.

The implication for research in HR is that conflated measures are likely to produce biased estimates of applicants' propensity to trust. Applicants may be generally distrustful of employers' motives for placing job adverts (for example suspecting an internal candidate has already been earmarked for the job) and become more unwilling to apply as a result. At the same time they may have high levels of general trusting expectations, that they will be treated well when going through the interview process. There is very little known about how trust, let alone distrust and the respective propensities operate in this context. Caution may be a further important behavioural facet of applicants' job search and interview process allowing them some control of the level of vulnerabilities that they may be exposed to. For example, more cautious individuals might avoid revealing to others their intention of leaving a job, whilst at the same time expecting and trusting their potential employer not to divulge such information prematurely. These points indicate the need to consider assessing propensities to trust, distrust and caution separately using appropriate scales or to consider the impact of caution and propensity to trust and distrust on the interpretation of results.

4.3.5 Reliability and validity of propensity-to-trust measures

Several of the measures have poor reliabilities, casting doubt on the accuracy that measurement provides. While the inclusion of unreliable measures may be pragmatically necessary, it nevertheless impacts on interpretation.

Most of the studies using propensity-to-trust measures report scale reliabilities (e.g. split half and internal consistency). There have not been any validity studies, other

than those reporting factor analysis and using the scales in order to test theories (for example, Gill et al., 2005). As regards validity, Colquitt et al.'s (2007) meta-analysis surveyed studies which had been carried out using a number of different measures of propensity to trust. Their study provides support for the trust antecedents' model of trust and this suggests that propensity to trust has construct validity in terms of the components present in the trust antecedent framework. In meta-analysis unreliability can be corrected and absent reliability data can be estimated using weighted average reliabilities (Colquitt et al., 2007) and therefore reliability of scales does not have to be a problem when considering the relationship of propensity-to-trust measures with other variables. However, following Kline's (2000) suggestion, one should always aim to use measures that are reliable since unreliability in measures may be a function of conceptual or structural problems with a scale. Consequently, attempts at correcting for unreliability may only confound problems with validity and subsequent interpretation of results particularly in single study designs.

4.3.6 Item ambiguity

Ambiguous items can lead to multiple interpretations and lack of validity (and as discussed above may be a source of coding disagreement). Personality research on item characteristics suggests that scales which include ambiguous items reduce discriminating power (Broen, 1960) and increase response latency (time for answering questions and hence duration of the completion task), response acquiescence, item difficulty and non-response (Goldberg, 1963, p. 484). Consequently, ambiguous items impact on both the use of scales and can constrain their subsequent interpretation.

This issue is problematic because of the multistranded and multilevel nature of trust. An example can illustrate this. Consider the following item: 'It is easy for me to trust

a person/thing' (Cheung & Lee, 2000; Koufaris & Hampton-Sosa, 2004). This is ambiguous because trust towards a person or a thing may be separate. A website can represent an organisation, which sometimes may be synonymous with it (e.g. Google, Amazon, Facebook) rather than a person or an entity in its own right. However, people make trait inferences about organisations analogous to how they infer traits to people (Slaughter, Zickar, Highhouse, & Mohr, 2004). Therefore a website and organisation could well be perceived in similar ways to a person. Nevertheless, little is known to what extent people make a distinction between trusting websites, organisations, or even people. Applied to selection contexts, an assessment centre could be described as a thing, although it does not have a physical entity as such. An assessment centre involves a place where it is held and also the people who are administering the process. There is a difference between trusting a process and trusting the people. Thus, when items are used that are ambiguous (confounding people and things) it becomes difficult to separate out the different objects and levels of trust that are found in organisations.

4.4 Summary

This review identified a number of propensity-to-trust scales, but more importantly, a thorough examination of the reported characteristics and of the actual scales revealed a number of limitations. Apart from some meta-analytic studies concerning propensity to trust in the context of other measures comprising the trust antecedent framework, there have been no systematic or global reviews of different scales in use in the literature, and this review therefore makes an original contribution developing a more sophisticated insight into both the reliability and validity of scales deployed and areas where caution in using these tools in trust research is required. This review has highlighted some conceptual and psychometric weaknesses in propensity-to-

trust measures and this analysis indicates that far from being a simple measure, many scales comprise multiple dimensions; an issue which has received scant attention to date.

Dimensionality in propensity-to-trust measures may be partially attributable to the presence of domain-specific references in item content. In principle this is not a problem as such since there are models which consider domain-specific aspects as a precursor to trust (e.g. Dietz & Den Hartog, 2006). Other possible reasons for the apparent dimensionality may be the relationship between trust, distrust and caution. The evidence in this chapter suggests that item content could be interpreted thematically in a number of different ways, comprising trust, distrust or caution and together with context issues leading to problems of interpretation of scale scores. When using content analysis to explore the dimensions, there was little agreement between two raters. However, both raters 'detected' the presence of different dimensions within almost all of the scales, implying that underlying dimensions can be discerned.

The intention of the review carried out for this chapter was originally to help identify measures of propensity to trust for use in follow-on research with job applicants (Research question A5, see section 1.3.1) but instead the review identified multiple dimensions within existing propensity to trust scales as well as evidence of inconsistency in content across different propensity to trust scales. From a pragmatic point of view of using scales for further research, understanding dimensionality and consistency of propensity to trust in relation to its content reflected across different scales is important. Exploring these issues further addresses five research questions regarding propensity to trust in chapter 1 (section 1.3.1). In the following paragraph, these research questions are indicated in italics, with the research question number in parentheses.

What dimensions are found in existing measures of propensity to trust (A1), is further addressed through the factor analysis reported in chapter 5. *How consistent these dimensions are across different scales (A2)* was addressed partially in this chapter but is also further explored in chapter 5 using reliability estimation techniques. The concept of propensity to trust is linked with personality theory because it is often regarded as a dispositional variable (see also section 2.2.3.2). Thus the research question *how dimensions of propensity to trust relate to different factors of personality (A3)* extends previous work on personality and trust and is addressed in the second part of chapter 5 using a regression approach for exploring the relationship between propensity to trust dimensions and personality dimensions. The question regarding the *implications of scale content to how one should interpret propensity to trust scales (A4)* is emergent from consideration of the previous research questions and is also addressed in chapter 6 via card sort.

Chapter 5 - Exploration of propensity to trust using factor analysis and multiple regression

5.1 Introduction and aims of the study

This chapter considers the dimensionality of propensity to trust using response data from participants on a number of existing measures of propensity to trust (see review in chapter 4). Analysis was undertaken using factor analysis and regression and is broken down into three stages:

1. Exploratory factor analysis (EFA) to identify plausible factor structure of a number of models
2. Confirmatory factor analysis (CFA) to assess model fit
3. Cross validation with a personality measure to provide evidence of relationship between personality attributes and factors of propensity to trust

This chapter begins with a method section, outlining the measures that were used, the procedure adopted, details of the sample and general data preparation. In the subsequent result section results from the aforementioned stages are reported. Finally, there is a discussion of interpretation and limitations of this study, followed by concluding comments.

5.2 Method

5.2.1 Measures used in the study

The measures in this study were reviewed in chapter 4. For clarity items belonged to the following scales (number of items that were used from each scale in parentheses): *Philosophies of Human Nature*, Wrightsman (1964) and Wrightsman & Wuescher (1974)(14 items); *Social Trust Scale - Revised Rosenberg* (Valenzuela et al., 2008) (6); *Trust*

propensity scale (Schoorman et al., 1996) (3); *Interpersonal trust scale* (Rotter, 1967)(25); *NEO Personality Inventory Revised* (Costa & McCrae, 1985)(8); *General Level of Trust scale* (Yamagishi, 1986)(2); *Trust in People* (Schuessler, 1982) (8); Huff & Kelley (2005) *trust* (4) & *distrust* (8). Responses were recorded using a 5-point Likert agreement scale ('Strongly disagree', 'disagree', 'neither agree nor disagree', 'agree', 'strongly agree').

Items pertaining to five scales (detailed below) were not included for a variety of reasons. First, to avoid duplication between Schoorman et al. (1996) and Yamagishi's (1986) General level of trust scales some items were removed. However, for the purpose of calculating scale scores and reliabilities for these two distinct measures, the responses were later combined with the other items which belonged to the respective scales. Second, where the review identified substantial problems due to poor item construction, or significant overlaps identified with other scales' items, these scales were not used (for example, Cheung & Lee, 2000). Third, the different item format utilized in the Rosenberg (1956) scale made it impractical to combine with the scores from other scales and it was decided to exclude this scale from the survey. Finally, although reviewed in chapter 4, Evans & Revelle (2008) propensity to trust and distrust and Ashleigh et al. (2012) propensity-to-trust scale were not used as they had not been identified at the time of data collection.

In order to assess personality correlates of propensity to trust and include evidence concerning construct validation, the *Hexaco 60-item* measure (Ashton & Lee, 2009) was employed as a means of assessing the big five personality factors, and an additional 6th factor, honesty/humility. Demographic data were also collected, including gender, age, ethnicity, occupation and educational attainment. See Appendix 1 for items used in the survey.

5.2.2 Procedure

Following ethical approval via the Human Research Ethics Committee (HREC) and Student Research Project Panel's (SRPP) (see chapter 3 methodology and methods), participants were contacted via an electronic invitation and invited to complete a survey. The survey link directed participants to a survey developed in Survey Monkey. Email addresses were added into Survey Monkey by the second supervisor, in accordance with the SRPP conditions for releasing student contact details for this study. Included in the invitation was a brief explanation of the purpose of the study before directing participants to the survey website. On the website an explanation of the survey items was included and the estimated length of time required for completing the survey. Informed consent was sought at this point. No credit or financial incentive was provided for those participating. A simple reminder email was sent to potential participants after 2 weeks, and the survey was closed after 4 weeks.

5.2.3 Sample

A random sample of 1585 respondents drawn from a population of students undertaking tertiary level distance learning at the Open University was invited to participate. The sample was representative of the general population of the university across different qualifications. Of those contacted, 455 responded (28.7%). 87 participants were removed from the analysis due to incomplete data. The final sample consisted of 116 men and 252 women from a variety of ethnic backgrounds (93%; reflecting 4 out of 16 categories) and English speaking countries (91%). The age range of the sample was relatively evenly distributed across the age ranges starting at 19 years and tapering off at the 51-55 year old level (See Figure 5.1). The modal age was the 36-40 band. Again this is typical of the age spectrum for this university's students.

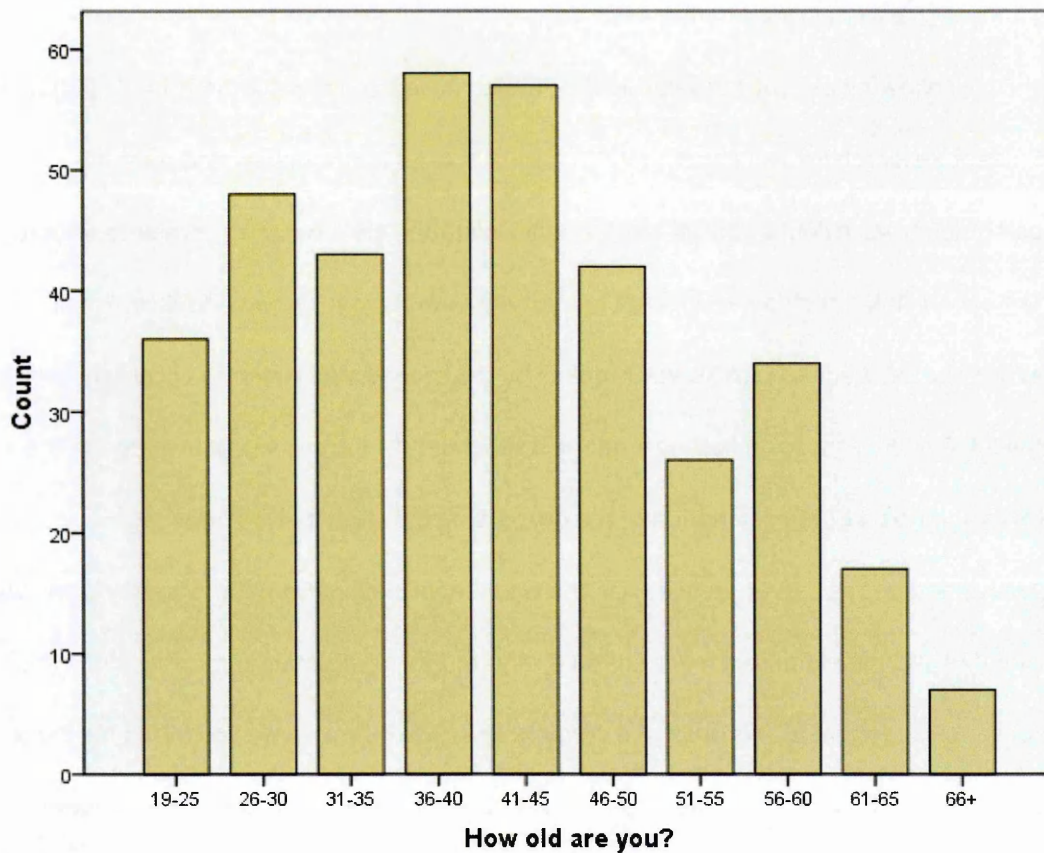


Figure 5.1 Histogram showing age distribution by age band

76.4% of the sample were employed (N=281) while 17.1% were unemployed (N=63), 6.5% did not provide any information about their employment status. In examining further the employed sample, jobs ranged across a broad spectrum: 25.3% of the sample classed themselves as managerial, while 19.8% and 18.5% were 'admin/clerical' and 'technical', and the remainder made up of 'supervisory', 'financial', 'unskilled' and 'voluntary' (See Figure 5.2 below).

5.2.4 Ethics process

The Ethics protocol was cleared as complying with the university's ethics committee guidelines and permission was granted to contact students. The project was registered with the data protection department at the University. In line with British Psychological Society ethics guidelines, participants were informed of their right to withdraw from

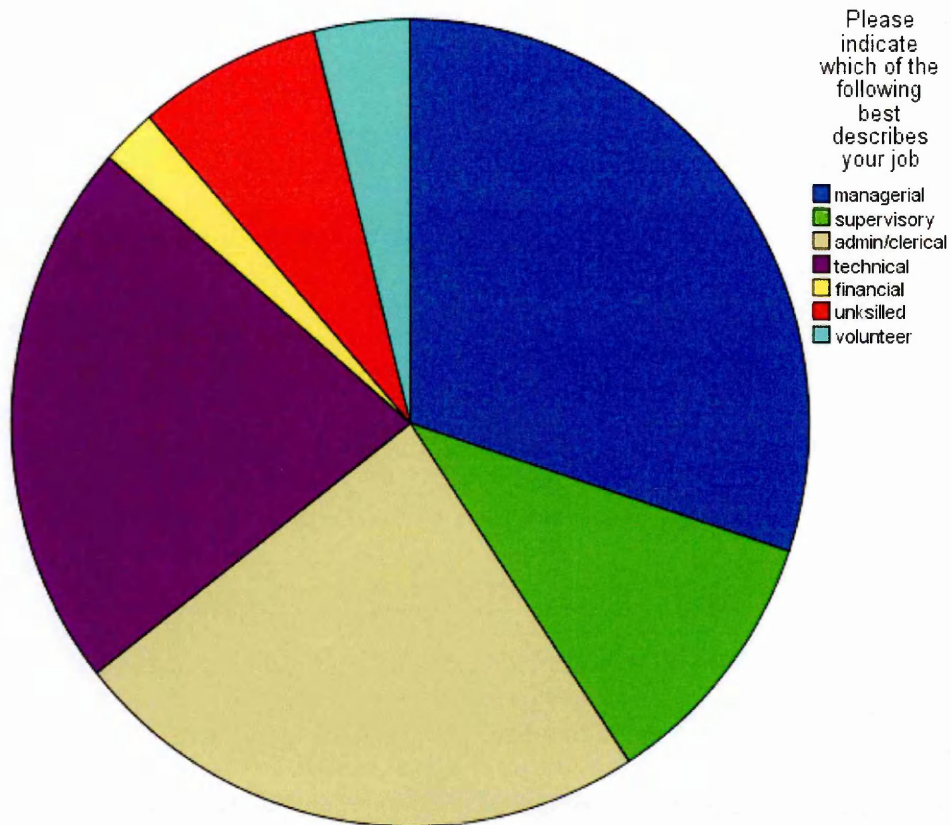


Figure 5.2 Pie chart showing occupations as a percentage of overall sample (N=309)

the study, and provided with an explanation of the purposes of the study (see also chapter 3). The number of items required a relatively high degree of commitment of time from participants, but no harm was identified otherwise as arising from participation in this study. Questions such as ethnicity and nationality which might be considered sensitive in some contexts were deemed appropriate for this study, and were covered by the right to withdrawal and informed consent.

5.2.5 General data preparation

Received data were prepared for analysis, with all the negatively worded items in the propensity to trust set and HEXACO recoded, such that high scores indicated a score in the same direction of the construct being measured.

5.3 Results

5.3.1 Descriptive statistics

The descriptive statistics presented here pertain to stages 1 and 2 of the analysis (exploratory and confirmatory factor analysis). Stage 3 descriptive statistics will be discussed later. Scales employed in this study show potentially wide differences in their means (see table 5.1). For example, Rotter's Interpersonal Trust Scale (ITS) has a lower mean than Costa McCrae's NEO and the Social Trust scale (STS). Looking at histograms of the sample distributions, it can be seen that several of the variables are negatively skewed and some are bimodal. The Shapiro-Wilk test is significant for all variables, revealing significant skew, with the exception of two scales (ITS and Philosophies of Human Nature;PHN). In table 5.1 below, medians are therefore reported together with the means of respective scales to take account of this and provide an alternative measure of central tendency.

To provide a comparison with the scales published reliabilities, Cronbach alpha was calculated on the basis of the data, for each of the original scales used (see table 5.2).

Tests of multivariate normality were carried out (see chapter 3, section 3.4.2.5.2) to check whether distributions of items showed multivariate skew. This analysis showed that 65% of items were significantly non-normal. Furthermore, combined tests of both kurtosis and skewness (D'Agostino & Pearson, 1973, K2; Jarque & Bera, 1987, Lagrange Multiplier test) revealed that 96% of items showed non-normal distribution. A computation of multivariate normality indicated several indexes (Mardi's, Small's & Srivastava tests) with significant multivariate skew and multivariate kurtosis, meaning that variables measuring propensity to trust in this sample deviated significantly from a multivariate normal distribution.

Table 5.1

Means, standard deviations, standard errors and Shapiro-Wilk p for eight propensity-to-trust scales

<i>Scale</i>	<i>Source</i>	<i>Central tendency^a</i>	<i>Shapiro-Wilk p</i>	<i>SD</i>	<i>SE</i>
<i>PHN</i>	Wrightsmann (1964)	3.31 (3.29)	.078	.51	.027
<i>STS</i>	Valenzuela, Park, & Kee (2008)	3.33 (3.33)	.000*	.58	.030
<i>MAY</i>	Schoorman, Mayer, & Davis, (1996)	2.85 (3.00)	.001*	.66	.034
<i>ITS</i>	Rotter(1967)	2.65	.900	.39	.020
<i>NEO</i>	Costa & McCrae (1985)	3.51 (3.62)	.000*	.61	.032
<i>GLT</i>	Yamagishi(1986)	3.05 (3.00)	.000*	.60	.031
<i>TIP</i>	Schuessler (1982)	3.18 (3.25)	.000*	.66	.034
<i>HKT</i>	Huff & Kelley (2005)	3.13 (3.25)	.007*	.62	.032
<i>HKD</i>	Huff & Kelley (2005)	3.12 (3.13)	.000*	.61	.032

N= 368; PHN=Philosophies of Human Nature; STS=Social Trust Scale (Revised Rosenberg); MAY = Trust propensity scale; ITS = Interpersonal trust scale; NEO = NEO Personality Inventory Revised; GLT = General level of trust; GTA = General Trust Assessment; HKT = Huff & Kelley Trust; HKD=Huff & Kelly Propensity to distrust. (Figures in parentheses are medians). * Significant; ^a Medians are reported in brackets where the distribution is significantly skewed.

Table 5.2

Reliability coefficients for eight propensity-to-trust scales

<i>Scale name</i>	<i>Source</i>	<i>alpha</i>	<i>Standardized alpha</i>	<i>items(k)</i>
<i>PHN</i>	Wrightsmann (1964);	.82	.82	14
<i>STS</i>	Valenzuela, Park, & Kee (2008)	.80	.81	6
<i>MAY</i>	Schoorman, Mayer, & Davis, (1996)	.65	.65	8
<i>ITS</i>	Rotter(1967)	.83	.83	24
<i>NEO</i>	Costa & McCrae (1985)	.86	.87	8
<i>GLT</i>	Yamagishi(1986)	.58	.58	3
<i>GTA</i>	Schuessler (1982)	.88	.88	8
<i>HKT</i>	Huff & Kelley (2005)	.70	.70	4
<i>HKD</i>	Huff & Kelley (2005)	.82	.82	8

N=368; PHN=Philosophies of Human Nature; STS=Social Trust Scale (Revised Rosenberg); MAY = Trust propensity scale; ITS = Interpersonal trust scale; NEO = NEO Personality Inventory Revised; GLT = General level of trust; GTA = General Trust Assessment; HKT = Huff & Kelley Trust; HKD=Huff & Kelly Propensity to distrust.

5.3.2 Choice of analysis

As the primary interest in this study was to identify latent factors within selected propensity-to-trust scales, in stage 1 an exploratory factor analysis (EFA) was considered the most appropriate analysis. Following the discussion in chapter 3, data presented here shows significant multivariate skew as highlighted above, and therefore maximum likelihood algorithms could not be used. Principal axis factoring was used in the initial exploratory analysis (stage 1) and mean and variance adjusted variants of Maximum likelihood estimation was used in the confirmatory analysis (stage 2).

5.3.3 STAGE 1: Exploratory analysis using principal axis factoring in SPSS

For the purposes of exploratory factor analyses which are detailed in this section and the confirmatory factor analyses that were required for stage 2, the sample (n=368) was divided randomly. The sub-sample was drawn using the SPSS RV.NORMAL function, which creates a random number for each case from a distribution with a mean of 0 and a standard deviation of 1. Cases above and below the mean are then used to form the split-half analysis. Several exploratory analysis were then carried out on one of the sub samples (N=181 participants).

In line with good practice of avoiding the use of the word 'trust' in items (Cummings & Bromiley, 1996; Dietz & Den Hartog, 2006) and to avoid duplication, several items were removed from the factor analysis (see table 5.3). Items with the word 'trustworthy' were retained because they qualified the term with reference to other criteria, such as honesty ('I think most of the people I deal with are honest and trustworthy'; item q52), or with reference to achieving some thresholds prior to an individual regarding someone as trustworthy (e.g. 'In dealing with strangers it is better to be cautious until they have provided evidence that they are trustworthy'; item q25).

Table 5.3

Items removed from EFA

<i>Item</i>	<i>Reason for removal</i>
Q15 Generally speaking, I would say that people can be trusted.	'Trust' in item
Q54 My first reaction is to trust people.	'Trust' in item
Q62 Most people can be trusted.	'Trust' in item
Q63 Strangers can generally be trusted.	'Trust' in item
Q59 Most people are basically honest.	duplicate
Q71 Most salespeople are honest.	duplicate
Q60 It's hard to figure out who you can really trust these days.	'Trust' in item
Q61 There are a few people in this world you can trust, when you get right down to it.	'Trust' in item
Q77 Society needs tough laws and regulations because businesses cannot otherwise be trusted to do what is good for society.	'Trust' in item
Q79_ I am usually suspicious of people until I have had plenty of time to get to know them and know they can be trusted.	'Trust' in item

The retained items were checked for communalities and showed average communality per item of .63, indicating an average 63 per cent of common variance between items. Particular attention focused on those items with communalities below .5, since such results indicate these items do not account for a high percentage of explained variance in that factor. Only seven such items were found with none below .4. While these could have been deleted from the item pool, there was concern that this would reduce the item pool, and as a general consideration remove items of interest, and questions that could conceivably cluster together as one factor. The decision on further examination of these low performing items was *not* to remove them.

The Kayser-Meyer-Olkin index (KMO) was calculated to provide an assessment of the quality of the factoring with results above .6 being considered adequate. The KMO for this sub-sample was an adequate KMO = .843. This suggests that these data would factor well, regardless of the choice of factor model. Similarly, Bartlett's test of sphericity which is used to assess the null hypothesis that variables are uncorrelated and therefore

unlikely to factor was found to be very highly significant ($\chi^2_{(2346, N=181)} = 6606.83$; $p < .001$).

Initial inspection of the data scree plot for an unconstrained factor analysis indicated the presence of one central component, and a large number of smaller components. Using the Kaiser criterion, one would consider extracting 19 factors with Eigenvalues larger than 1 which account for 68.9% of the variance. Employing a rule of thumb for the Scree-test (Cattell, 1966), at the point where the decrease in Eigenvalues appears to level off, the scree plots indicated between four to five factors were likely for these data (See Figure 5.3 below). However, as discussed in chapter 3 use of the Kaiser criterion is contentious as problems become exaggerated with small sample sizes and there are a large number of variables; this is the case here. Alternative statistical procedures for estimating the number of factors, were used (see discussion in chapter 3, section 3.4.2.5.2).

The *Minimum average partial (MAP) criterion* (Velicer et al., 2000) provides an estimate of 5 or 6 factors (1976 MAP and revised 2000 MAP procedure respectively). Based on *Humphrey-Ilgen parallel analysis* (Lance et al., 2006; Velicer et al., 2000, p. 67), one should extract five factors as shown in the Scree plot in figure 5.4 below.

5.3.3.1 Exploration of factor space

Exploratory Factor Analysis was undertaken for seven models by forcing the data into different number of factors, rather than using the eigenvalues as a cut-off. Principal Axis factoring was utilized and since correlations in the factor correlation matrix produced low but noticeable correlations between factors, oblique rotation (OBLIMIN) was applied (see also a brief discussion of this issue in chapter 3, section 3.4.2.5.2). Although the aforementioned parallel analysis suggested extraction of five factors, exploration of

Scree Plot P2T exploratory analysis

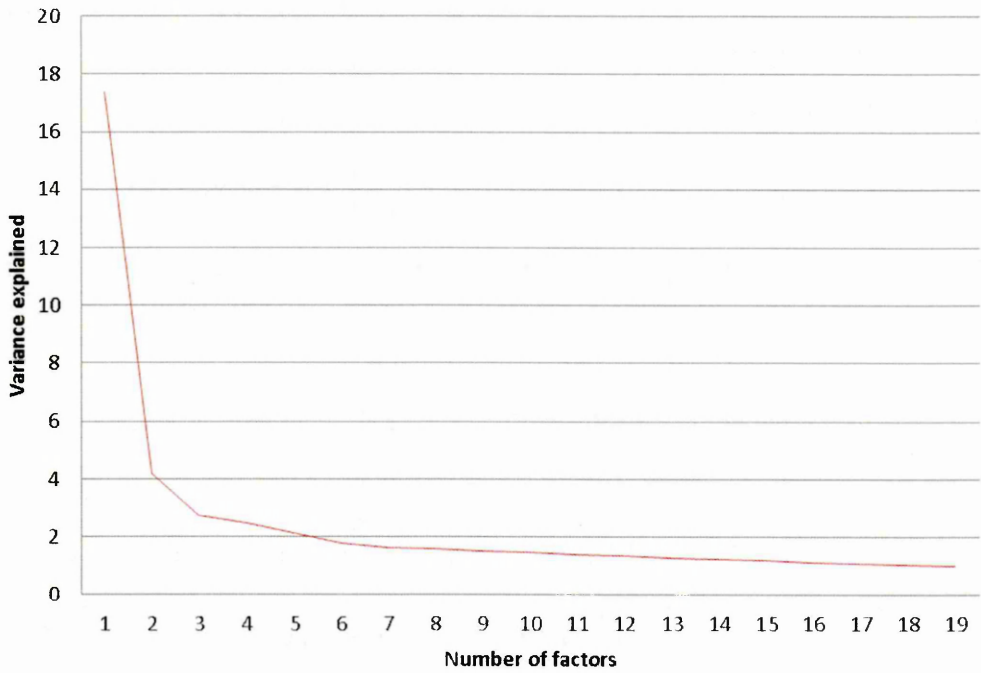


Figure 5.3 Scree plot for exploratory analysis

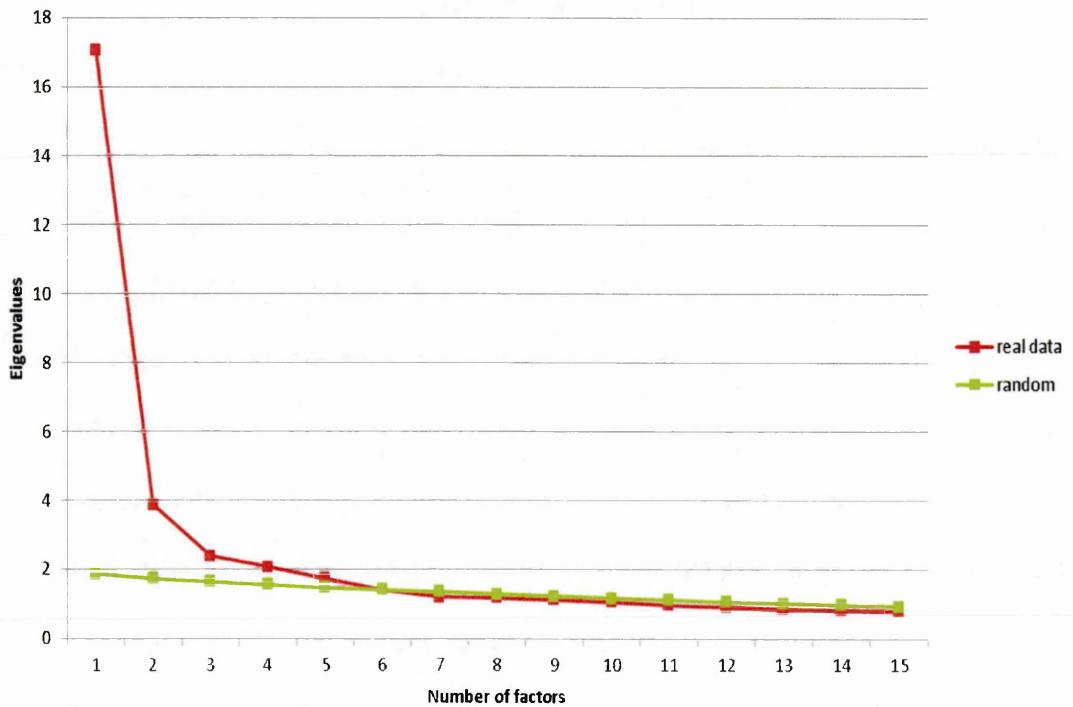


Figure 5.4: Scree plots for Factors derived from PCA and Humphrey-Ilggen parallel analysis, showing the number of factors to be extracted (at intersection between random and PCA scree plots)

models should be made without reliance on a single metric. In particular it is important that the clarity and plausibility of the factor is also considered. Therefore, in order to create simple structure, factors were rotated and factors considered based on both the size of the loading (larger than .32) and cross-loadings (items selected with cross-loading differences $> .20$). A summary of all seven models showing the results can be found in table 5.4 below.

These analyses show the same factors recurring as the number of factors increases. This consistent pattern confirmed the factor with the largest number of items (F1) was composed of negatively worded items (indicating low trust) and contained items expressing caution or reasons for being careful lest others act in exploitative manner. In contrast the second largest factor (F2) appears to describe only positively worded and more favourable views of human nature with the item 'people are basically honest' shown to have the highest item loading. Factor three (F3) was specifically concerned with dishonesty, cheating and rule breaking, and comprised both positive and negatively worded items. Factor 4 (F4) focused on role expectations (experts, salespeople). During analysis of models from five to seven factors, additional factors appeared to emerge which did not replicate across each of the subsequent factor models. As a result in the five-factor model the new, fifth factor seemed to focus on beliefs about people's self-centeredness and covering similar thematic ground to that of the caution factor. Then in the six-factor model this factor disappeared and was replaced by one factor loosely focussing on trusting at work(F5), and a further factor (F6) concerned with beliefs about the people's competence. Finally In the seven-factor solution the self-centeredness factor reappeared replacing the workplace factor and a final, very small seventh factor (F7) was added relating to trust in the political establishment. The new factors in models five to

Table 5.4:

Summary of EFA for 2, 3, 4, 5, 6 and 7 factor models of propensity to trust (N=181)

Model	Factor	Number of items	loadings	Percent variance accounted for	top loading item
2 Factor	F1 (Caution)	37	.33-.75	31.30%	These days you must be alert or someone is likely to take advantage of you. Most people are basically honest.
	F2 (Faith in People)	19	.33-.76		
	Total	56			
3 Factor	F1 (Caution)	18	.40-.73	35.24%	I tend to be cynical and sceptical of others' intentions. Most people are basically honest. Most people would cheat on the income tax if they had the chance.
	F2 (Faith in People)	18	.32-.77		
	F3 (Honesty)	15	.32-.65		
	Total	51			
4 Factor	F1 (Caution)	16	.35-.65	38.82%	One should be very cautious with strangers. Most people are basically honest. Most people would cheat on the income tax if they had the chance. Most sales people are honest in describing products.
	F2 (Faith in People)	18	.33-.76		
	F3 (Honesty)	15	.33-.64		
	F4 (Role expectation)	7	.35-.56		
	Total	56			
5 Factor	F1 (Self-centeredness)	4	.33-.57	41.96%	I'm suspicious when someone does something nice for me. Most people are basically honest. Most people would cheat on the income tax if they had the chance. Despite what they may say, managers really do not care if employees lose their jobs. These days you must be alert or someone is likely to take advantage of you.
	F2 (Faith in People)	18	.33-.77		
	F3 (Honesty)	12	.33-.60		
	F4 (Role expectation)	5	.38-.48		
	F5 (Caution)	15	.36-.72		
	Total	54			
6 Factor	F1 (Caution)	15	.40-.78	44.57%	One should be very cautious with strangers. I have a good deal of faith in human nature. Most people would cheat on the income tax if they had the chance. Most experts can be relied upon to tell the truth about the limits of their knowledge. Despite what they may say, managers really do not care if employees lose their jobs If you want people to do a job right you should explain things to them in great detail and supervise them closely.
	F2 (Faith in People)	15	.37-.73		
	F3 (Honesty)	12	.34-.59		
	F4 (Role expectation)	6	.35-.49		
	F5 (Trust in Work)	7	.35-.49		
	F6 (Trust in reliability)	5	-.41-(-.40)		
	Total	53			
7 Factor	F1 (Self-centeredness)	5	.42-.50	46.92%	Most people don't really care what happens to the next fellow I have a good deal of faith in human nature. Most people would cheat on the income tax if they had the chance. Most elected officials are really sincere in their campaign promises. These days you must be alert or someone is likely to take advantage of you. +ve:Q44_p2t_P ITS_Maj: Most sales people are honest in describing products. If you want people to do a job right you should explain things to them in great detail and supervise them closely.
	F2 (Faith in People)	14	.34-.54		
	F3 (Honesty)	9	.35-.58		
	F4 (Political/ Institutional trust)	5	.37-.56		
	F5 (Caution)	14	.32-.70		
	F6 (Role expectation)	5	-.50-(-.36)		
	F7 (Trust in reliability)	3	.39-.56		
Total	55				

N=181

seven were also more difficult to define owing to the smaller number of items and less clear thematic anchoring..

5.3.3.2 Summary of exploratory analysis

The results showed that greater levels of variance could be accounted for as the number of extracted factors increased (see table 5.4) ranging from 31.30% to 46.92%. However, there needs to be some caution here in merely proliferating factors, as models containing more factors do not necessarily imply that they are better, or more plausible. When increasing the number of factors during the analysis new factors appear to emerge, with some factors from previous analyses being 'replicated' across each additional forced factor solution, indicating such dimensions are robust, relevant and not merely the result of statistical artefacts.

Parallel analysis suggested between five to six factors are present. The factors with fewer items appeared to cluster around similar thematic concepts and so lent some support to the argument that people respond differently to items about contexts and domains than compared to items that are more general. However these factors appear to be less stable as the number of factors is increased (e.g. differences in item content between the five and six factor model) and so it remains unclear what they measure. It appeared that participants discern items which refer to caution and distrust from items expressing a more favourable view of human nature. However, as EFA is not generally used to determine which of the models is the best fitting (Hurley et al., 1997; Thompson, 2004) further evidence, in the form of confirmatory analysis is required.

5.3.4 STAGE 2: Confirmatory analysis

In order to resolve the question of model validity, confirmatory analysis was carried out (Stage 2 analysis). The preceding exploratory analysis provided lists of items

against each factor for each model. These results formed the basis for the subsequent confirmatory factor analyses (CFA) using MPLUS. These analyses used the second random half of the split data set (n=187). In MPLUS confirmatory factor analysis is based on a 'multivariate regression model which describes the relationship between a set of observed dependent variables and a set of continuous latent variables' (Muthén & Muthén, 2010, p. 51). Unlike exploratory factor analysis in SPSS, MPLUS does not use rotation (e.g. Oblimin, Geomin) to extract simple factor structure, but instead allows factors to be correlated in both exploratory and confirmatory analyses by default.

As identified earlier in the EFA similar levels of violations of multivariate normality were detected during data preparation for the sample used in confirmatory analysis. To respond to this, MPLUS software has the capability to employ algorithms for estimating maximum likelihoods via mean and variance adjusted maximum likelihood estimation (MLMV), which remains unbiased even under conditions of multivariate non-normality (Muthén & Muthén, 2010).

The seven models derived from EFA were entered into CFA. The information reported in table 5.5 below follows the recommendations for reporting and interpreting indexes for CFA given by Brown (2006) and by Barrett (2007). The results from the chi-square test of model fit indicate that all models obtained should be rejected, as none of them fail to accept the null hypothesis. However, chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing, and following Muthén's (2005) advice no further emphasis should be placed on these chi-square results. In the analysis of the six-factor model MPLUS reported a non-positive definitive covariance matrix in the six factor model. The source of this appears to be a linear dependency located in factor 4, but it has not been possible to identify which items contributed to it. Attempts by the author to remove variables in order to isolate the

Table 5.5

Summary of confirmatory factor analysis fit Indices

INDEX	MODEL					
	2 factor	3 factor	4 factor	5 factor	6 factor*	7 factor
χ^2	1799.41	1484.673	1977.280	1632.907	1575.795	2534.758
<i>df</i>	1483	1221	1646	1367	1310	1485
<i>p</i>	0.0000	0.0000	0.0000	.0000	.0000	0.0000
SRMR	.074	.073	.076	.072	.072	.072
RMSEA	.034	.034	.033	.032	.033	.031
90 Percent C.I. Probability RMSEA <= .05	.028 <> .039	.027 <> .040	.027 <> .038	.026 <> .038	.026 <> .039	.025 <> .037
CFI	.715	.752	.700	.748	.743	.755
TLI	.705	.741	.688	.736	.729	.742
Akaike (AIC)	23966.92	21646.73	25482.80	23038.69	22754.79	23529.15
AIC c 1	27346.92	23279.53	47930.80	27289.55	27829.79	23602.65

* MPLUS reports non-positive definitive covariance matrix for this model.

dependency led to non-identified solutions, and as a result further investigation was abandoned and initial results reported instead.

SRMR estimates of the fit between the observed vs. the estimated covariance matrix indicated that all of the factor models in table 5.5 were less than the recommended SRMR benchmark level of .08 (Hu & Bentler, 1999), thus indicating some fit. As regards SRMR the best fitting models are the five-, six- and seven-factor models. It is noteworthy that the differences in fit between those three models and those obtained for all the other models appeared to be so small as to seem spurious. However, CFI and TLI, which indicate the difference between the model and the null model (covariance=0), appeared to fit less well in contrast with the recommended values of CFI and TLI of above .95 (Hu & Bentler, 1999). While the highest levels of CFI and TLI were found for the three- and seven-factor- model, the overall fit for these models appeared poor.

The Aikake information criterion (AIC) provides a measure of how much information is lost when a model is used to describe the data, but it does not offer a test of hypothesis. Based on AIC, the three-factor model was found to lose the least amount of information. However smaller samples can lead to over-fitting when using the AIC index and there are no benchmarks regarding sample sizes for the AIC index. Using Burnham & Anderson's (2002) recommendation regarding small sample size, sample and parameter corrected AIC (AICc) was calculated. Based on this, the three-factor model was confirmed as losing the least amount of information. The pattern matrix for the three-factor model including items can be found in Appendix 2.

Based on the conflicting results above there appears to be no easy way to decide which model to select for further analysis. However, converging evidence from parallel analysis and CFA supports the plausibility of the five- and six-factor model although the three-factor model also looked promising. This is further discussed in section 5.3.5.2 below.

5.3.5 STAGE 3: Cross validation with personality factors

Previous research indicates a relationship between propensity to trust and personality factors (Evans & Revelle, 2008). Personality factors have been found to predict behavioural outcomes related to trust and trustworthiness, such as divorce, occupational attainment (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007) organizational commitment and productivity (Hogan & Holland, 2003), as well as counterproductive behaviour (Salgado, 2002). Direct links between trust and the big five factor of *agreeableness* have also been noted (Costa & McCrae, 1992), and some studies support links between propensity to trust, trustworthiness and extraversion, emotional stability and conscientiousness (Evans & Revelle, 2008). Given this evidence a cross-validation of propensity-to-trust measures with personality factors might further extend our current

understanding. The earlier stages in the present study have isolated factors of propensity to trust and therefore in the final stage an investigation of the multidimensionality of propensity-to-trust measures and personality was undertaken.

5.3.5.1 HEXACO scales

In order to cross-validate factors to personality correlates, data was collected concurrently using the HEXACO model of personality. The scales assessing the HEXACO model were specifically chosen as they include a unique factor termed *honesty* that would arguably be relevant for trust research. Analysis of the responses identified that two of the HEXACO scales had reliabilities less than .7. The remainder of the scales showed more acceptable reliabilities although still on the lower end of the distribution of reliabilities (see table 5.6 below; and discussion of reliabilities in chapter 3, section 3.4.2.5.3).

Table 5.6

Reliabilities for HEXACO scales

<i>Dimension</i>	<i>Alpha</i>	<i>Standardized</i>		<i>N</i>
		<i>alpha</i>	<i>k</i>	
Honesty Humility	.68	.68	10	364
Openness	.79	.79	10	364
Conscientiousness	.60	.59	10	364
Extraversion	.79	.80	10	364
Agreeableness	.79	.78	10	364
Emotionality	.77	.77	10	364

5.3.5.2 Propensity to trust

With regards to the CFA results for propensity to trust inconclusive model fit created a conundrum. As discussed previously, based on parallel analysis some support was obtained for the five- and six-factor models. There were questions about the validity of the six-factor solution resulting from non-positive definites in the covariance matrix. Inspection of the five-factor model highlighted problems with the small trust-in-work and

role expectations factors. The Cronbach alpha for role expectations was fairly low (alpha = .56), while the alpha for the trust-in-work dimension was an acceptable .75. However, a critical view of items comprising the trust-in-work factor also indicated a lack of a coherent theme, thus creating doubt about the construct validity of this factor. In contrast, the three-factor model showed slightly better fit for CFI and TLI and also the lowest AICc. The adoption of this three-factor solution in subsequent regression analysis seemed a more parsimonious approach than using weak or questionable dimensions as per the five-factor solution. Cronbach alpha reliabilities for the three-factor models indicated good internal consistency for each of the three scales (See table 5.7 below, which also contrasts the internal consistencies of the three-factor model with those of the five- and six-factor models).

Table 5.7

Reliabilities for and five and six factor model propensity scales

Dimension	N	3 factor model		5 factor model		6 factor model	
		alpha	k	alpha	k	alpha	k
Caution	368	.92	18	.90	15	.90	15
Faith in people	368	.90	18	.90	18	.90	15
Concern with Honesty	368	.82	15	.79	12	.80	10
Trust in work	368	-	-	.75	4	.70	6
Role expectation	368	-	-	.56	5	.59	5
Competence	368	-	-	-	-	.60	2

5.3.5.3 Descriptive statistics and consideration of variable distributions

Scores for the three-factor model were calculated by using the items and summing them. The Shapiro-Wilk test (Shapiro & Wilk, 1964) and Kolmogorov-Smirnov test (Massey Jr, 1951) in SPSS showed the selected Hexaco and propensity scales to be significantly negatively skewed. Neither removal of outliers, nor transformations of data using a variety of formulae reduced skew. Pearson correlations have been shown to be

insensitive to violations of normality (Havlicek & Peterson, 1977), but only when the data are independent (Edgell & Noon, 1984). Analysis of autocorrelations using the Durbin Watson coefficient during regression suggests that the independence assumption was not violated as coefficients were within the recommended 1.5 to 2.5 range (Garson, 2012b). Therefore, use of Pearson correlations was deemed permissible.

A table of Pearson correlations between variables is given below (table 5.8) with clear indication that almost all variables are significantly inter-correlated. Pearson correlation indicated that propensity-to-trust scales constructed from factor analysis were highly correlated with each other. Hexaco scales were also shown to correlate with each other, and there were predictable correlations between extraversion, agreeableness and the honesty/humility dimension and propensity-to-trust scales. Despite violations of normality, however, without exception all variables showed a normal distribution of residuals (actual vs. predicted), which is a requirement for regression. The relationship between all variables appears to be linear and homoscedastic, as shown by examination of residuals and predicted values.

5.3.5.4 Regression checks

Further tests for multicollinearity, tolerance and VIF (variance inflation factor) were undertaken and confirmed that dimensions obtained were not multicollinear (O'Brien, 2007). Canonical correlation would have been the preferred analyses as it makes fewer assumptions of the causal relationship between variables and reduces the risk of type 1 error (Sherry & Henson, 2005). However, tests of multivariate normality (DeCarlo, 1997) indicated significant violation of the multivariate normality assumption applicable to canonical regression. Based on findings from earlier personality research (Evans & Revelle, 2008), however, it makes more sense to assume that personality traits give

Table 5.8

Correlations between HEXACO and propensity-to-trust factors (Caution, faith in people and concern with honesty)

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Hexaco Openness	3.03	.59	(.79)	.18**	.21**	.10	.26**	.28**	.16**	.08	.01
2. Hexaco Agreeableness	3.52	.49		(.78)	.18**	.04	.27**	.38**	.33**	.36**	.24**
3. Hexaco Conscientiousness	2.75	.52			(.59)	.12*	.25**	.34**	-.04	.06	.05
4. Hexaco Emotionality	3.71	.62				(.77)	-.02	.19**	-.07	.00	-.06
5. Hexaco Extraversion	3.11	.62					(.80)	.21**	.26**	.23**	.05
6. Hexaco Honesty/Humility	3.47	.48						(.68)	.25**	.22**	.27**
7. Caution	3.16	.63							(.92)	.65**	.69**
8. Faith in People	3.31	.61								(.90)	.55**
9. Concern with Honesty	3.69	.58									(.82)

N=368; **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). numbers in parentheses are values of Cronbach alpha

rise to beliefs about trust rather than vice versa. Therefore, multiple regression is an appropriate approach for undertaking tests of the relationship between HEXACO personality scales and propensity-to-trust scales.

5.3.5.5 Regression analysis

Using SPSS, stepwise regression analysis was carried out with the three revised propensity-to-trust factors as independent variables and HEXACO personality scales as dependents. Given the lack of evidence of multicollinearity and interaction terms used in the regression, variables were left un-centred (Cohen et al., 2003; Hayes & Matthes, 2009; Howell, 2002). The results are shown in table 5.9.

Table 5.9

Multiple regression of propensity to trust on HEXACO factors

Model		R^2	F	Unstandardized Coefficients		Standardized Coefficients	95.0% Confidence Interval for B		
				B	Std. Error	$Beta$	Sig.	Lower	Upper
<i>Caution</i>	(Constant)			3.03	.028		.000	2.97	3.083
	Agreeableness			.24	.050	.24	.000	.14	.33
	Honesty/Humility	.19	20.99 p<.0001 df =4,363	.20	.049	.21	.000	.11	.30
	Conscientiousness			-.24	.063	-.19	.000	-.36	-.11
	Extraversion			.18	.054	.18	.001	.08	.29
<i>Faith in People</i>	(Constant)			3.52	.024		.000	3.48	3.57
	Agreeableness	.146	31.27 p<.0001 df =2,365	.25	.040	.32	.000	.18	.33
	Extraversion			.11	.040	.14	.007	.03	.19
<i>Concern with Honesty</i>	(Constant)			2.751	.026		.000	2.70	2.80
	Honesty/Humility			.21	.049	.24	.000	.11	.31
	Agreeableness	.107	14.53 p<.0001 df =3,364	.13	.045	.15	.005	.04	.22
	Emotionality			-.09	.042	-.11	.031	-.17	-.01

A manipulation check was conducted examining any possible differences between men's and women's HEXACO and propensity-to-trust scales scores. No evidence was found of any gender effects on these scales, except for two, namely emotionality and honesty/humility; here men were found to score significantly lower on these scales than female counterparts. No noticeable gender effects were observed when gender was added to the regression for any of the dependent variables.

All of the regression results were significant in predicting the three propensity-to-trust factors. Four predictors accounted for 13.9% of the variance in *Caution* ($R^2=.19$; $F(4,363) = 20.99, p<.001$). It was found that Agreeableness ($\beta=.24, p<.001$), Honesty/Humility ($\beta=.21, p<.001$), Conscientiousness ($\beta=-.19, p<.001$) and Extraversion ($\beta=.18, p=.001$) predicted caution. Two predictors account for 14.6% of the variance in *Faith in people* ($R^2=.15$; $F(2,365)= 31.274, p<.001$; Agreeableness ($\beta=.32, p=.001$) and Extraversion ($\beta=.14, p<.01$)). Three variables accounted for 11% in the variance in *Belief in honesty* ($R^2=.13$; $F(3,364)= 14.528, p<.001$): Honesty/humility ($\beta=.24, p<.001$), Agreeableness ($\beta=.15, p<.01$)), and Emotionality ($\beta=-.11, p<.05$)).

5.3.5.6 Effect sizes

Effect sizes are seldom included in reports of statistical tests (Baguley, 2009); yet such information is considered good practice. In multiple regressions effect sizes can be calculated in a number of ways. R^2 which was reported above already offers a measure of the size of effect in regression, namely the variance accounted for by the variables (Cohen et al., 2003). Another effect size, f^2 is readily converted from R^2 (Cohen, 1988; Soper, 2014). Cohen (1988, pp. pp. 410-414) asserted that R^2 effect sizes of .0196, .1304 and .2592 represent small, medium and large effects, respectively. Using effect sizes, values of power ($1 - \beta$) can be looked up in relevant statistical tables. The f^2 effect size and

corresponding power were all calculated using G*power software and confirmed as being in the medium range (see table 5.10, below).

Table 5.10

Power analysis of regressions

<i>Model</i>	R^2	f^2	<i>Power (1-β)</i>
Caution	.19	.23	.95
Faith in people	.15	.19	.87
Belief in honesty	.11	.12	.72

5.4 Discussion of factor analysis and regression

These three stages of analysis provide evidence of multiple factors in measures of propensity to trust. Nevertheless, the exact number of factors seems to be difficult to quantify accurately. Tests of the different models using confirmatory factor analysis showed that none of the models appeared to fit universally well, but a subsequent regression analysis of a three-factor model showed these factors could be predicted statistically from HEXACO personality dimensions.

This result supports the perspective that different propensity-to-trust dimensions are associated with different personality facets. It suggests that measures of propensity to trust reflect personality attributes, which operate in different ways depending on the issue at stake (e.g. risk, honesty). In particular, the presence of a negative correlation between conscientiousness and caution implies that those who are more conscientious tend to be less trusting of strangers, and more careful others do not take advantage. In contrast, those with lower stability (higher emotionality score) appear to hold more negative views as regards trusting people to be honest, suggesting that those with more neurotic personalities are less likely to believe that other people will be honest than those with higher emotional stability. Agreeableness and extraversion were predictors of all

three propensity-to-trust variables, as would be predicted from previous research (Evans & Revelle, 2008).

5.4.1 Limitations

There are several limitations to this study.

5.4.1.1 Survey methodology and non-respondents

Although survey methodology offers the advantage of enabling the collection of large data sets, the return rate for this survey although disappointing, was within the norm for such a study. The length of the survey may have been a contributing factor to the low response rate, even though relatively few respondents only partially completed the survey. Comments from participants indicated some frustration with the size of the survey. The main impacts of this were twofold: First, the source of this sample (e.g. Open University students) contrasts with the normal population by including a large number of participants who are able to persist through a challenging and frustrating task (e.g. a degree). Second, fear of fatigue may be a deterring element for participants from commencing such a task in the first instance (see also chapter 3).

Goyder (1988) suggests that non-respondents can lead to a truncation in sample distribution in favour of individuals who are a...

...socially central and active, perhaps behaviourally manipulable, and exchange oriented, citizenry (p.187).

Rather than being inner-directed such responders are outer-directed, and thus attentive to external cues found in a survey instrument. Outer-directed individuals are more likely to shape their behaviour to fit with other people's expectations (Riesman, 2001) and hold beliefs that personal relationship and networks are important for success (Trompenars & Hampden-Turner, 1993). One would therefore presume their orientation

to be favourable towards trusting others, and so consistent with their beliefs about relationships. However, the distributions from this sample have a broad range and although skewed do not appear unduly truncated on any of the variables. The link with exchange orientation and inner- and outer-directedness highlighted by Goyder (1988) was however not further investigated in this study, and may deserve some further attention, as it may be a common driver of both survey participation and higher levels of propensity to trust and thereby explain the skew in propensity-to-trust data.

5.4.1.2 Factor analysis and sample size

Reduction in sample size is perhaps the most contentious issue to consider in factor analysis. Although a large potential sample was contacted, the small return resulted in exploratory and confirmatory factor analyses being carried out on much smaller samples than initially intended. Suggestions for ideal sample sizes for factor analysis have been proposed by a variety of authors, ranges from the number of participants required to participants to item ratios (with between 50 to several hundred being considered sufficient). More recently, some authors have proposed that the 'rules of thumb' commonly employed in factor analysis to judge sample adequacies are flawed (De Winter et al., 2009; MacCallum, Widaman, Preacher, & Hong, 2001; MacCallum, Widaman, Zhang, & Hong, 1999). Accordingly, exploratory factor analysis can be undertaken using much smaller samples than previously thought; with samples as low as 50 considered appropriate, depending on loadings, number of items and number of factors being extracted. There were between three to six factors with average loadings for all the studies reported in this chapter around .5. Approximating this study to De Winter's (2009) simulation data by eyeballing suggests that N of 181 or 187 respectively should be sufficient for exploratory analysis to proceed.

In confirmatory factor analysis sample size has been shown to impact fit indexes (Marsh, Balla, & McDonald, 1988) and sample sizes of 200 or more would be required for theoretical models and N=300 for population models (Myers, Ahn, & Jin, 2011). Specifically, CFI appears to be more strongly affected by sample size while RMSEA and SRMR are dependent on factor loadings, both resulting in failure to detect mis-specified models (Heene, Hilbert, Freudenthaler, & Bühner, 2012). Given the inconsistent fit data and the sampling and other issues, results from the factor analysis reported in this chapter should therefore be treated cautiously but not dismissed outright. Firstly, the gap between the sample size used in this study and those considered to be acceptable for CFA based on research cited above is not that large. Secondly, as De Winter et al. (2009) have shown, replicability of factors decreases gradually under different conditions of loadings, items and factors. Therefore, even if the full extent of the effects of sample size and loadings cannot be determined for the CFA in this study, one might consider such effects to be relatively small, thereby permitting some discussion of the structures that were produced. Because the factors extracted through EFA and CFA were used in a subsequent regression, one implication is that regression proceeded with variables that were derived from a poorly fitting factor solution. This indicates some risk of type 1 error and of falsely believing that the relationships between propensity-to-trust dimensions and HEXACO personality variables are substantial when they are not.

Despite the limitations, previous research does support the results reported here including factor structure and personality relationships. For example, as highlighted in chapter 4, previous attempts to factor analyse propensity-to-trust measures have identified multiple dimensions although these were not consistently produced across different studies. By allowing a large item set, this study found some support for all of the previously identified factor dimensions, and regardless of how many factors are forced

some factors appear to emerge regularly (e.g. favourable view of people and caution). For example, looking at individual scales, such as the interpersonal trust scale, Kaplan (1973) had found evidence for a three-factor solution (*Institutional trust, sincerity and caution*), which thematically correspond to the *Honesty* factor and *caution* factor in the present study. More recently Ashleigh, Higgs, & Dulewicz (2012) identified a three factor solution (Trusting Others, Reliability and Intergity, and Risk Aversion). Both *trusting others* and *risk aversion* seem to fit closely with the thematic concern of the *faith-in-people* factor and with the *caution* factor in this study, and reliability and integrity includes items that fit the *honesty* factor in the present study. As the items in the present study were taken from previously published scales, this supports the suggestion that previous unidimensional views of propensity to trust may have underlying dimensions whose influence has previously not been taken account of.

5.4.1.3 Rotation

Oblimin rotation was used in the EFA in response to the low but noticeable factor correlation. An earlier run of the EFA analysis used varimax rotation and this produced broadly similar patterns. The key difference with orthogonally rotated solution is that the factors with fewer items appeared to be more meaningful, for example the five-factor model included a thematically robust trust-in-work factor. Further analysis with regression also produced similar observations regarding the role of personality variables as predictors of propensity to trust dimensions. The main implication of oblique rotation is that the factor solutions of five and more factors seem to produce factors (e.g. trust in work) that have less construct validity and should therefore not be used in further statistical analysis. Hence in this chapter regressions of propensity to trust on HEXACO personality variables only included three propensity to trust dimensions *based on the three factor model*. Nevertheless insights from varimax models and from the emergence

of meaningful factors raise interesting questions regarding the way in which respondents interpret item content and their underlying dimensions. For example, do contexts (e.g. work) generate their own propensities to trust? This is explored further in chapter 6 which uses the five factor dimensions from the earlier varimax rotated model as the basis for a further exploration of dimensionality.

5.4.1.4 Regression analysis

There are a number of limitations regarding the regression analysis. Unlike factor analysis, sample size appears not to be a limitation in this study. Calculating effect sizes using G*Power software allows estimation of the number of participants needed, and in the case of all propensity-to-trust variables, the minimum sample size to show the smallest effect (e.g. workplace trust) is smaller (n=243) than the actual sample size used in this study (n=368).

Limitations arise mainly at the input stage (e.g. which variables are entered, and choice of analysis). The limitations relating to propensity-to-trust scales have already been discussed in relation to factor structure. Further issues arise for pragmatic reasons: propensity-to-trust variables were not based on factor scores, but were simply averaged across items belonging to each particular scale. HEXACO scales were correlated with each other and all other variables indicating some response acquiescence and fatigue effects (e.g. participants indicating the same high or low score) for items in order to save time. Checks of multicollinearity showed no evidence of this being an issue. Inspection of plots of residuals versus predicted scores showed no evidence of violating nonlinearity assumptions. Furthermore, considering the overall means for each scale and comparison with published norms for the HEXACO (Ashton & Lee, 2009), there was little difference in the magnitude of responses or in the response patterns between men and women. This suggests that despite some tendencies for respondents to acquiesce in their responses,

aggregated scores should probably be interpreted as indicating their personality traits as measured by the HEXACO.

5.4.2 Theoretical and methodological implications for trust research

Relatively few studies have examined the dimensionality of existing propensity-to-trust scales, with most researchers operationalizing a simple univariate propensity-to-trust variable. The study reported in this chapter presented evidence that propensity to trust may be multi-faceted, with dimensions that may work antagonistically as well as complementarily; in particular, the results revealed a difference between a generally positive *faith-in-people* factor and a *caution* factor. This supports the argument in chapter 4 that those with a positive general view of human beings can nevertheless also be cautious. Thus, while an individual's tendency regarding people may generally be trusting, they may also consider that given an opportunity to advance themselves, or achieve personal gain, people would do so. Due to the past univariate treatment of propensity to trust, the results here present a nuanced and complex conception of propensity to trust. Thus the failure to regard propensity to trust as a multi-variant concept in previous research is likely to lead to an incomplete picture, ignoring the different facets that may be active in any given situation. Perhaps only some items provide a 'true' measure of generalized tendency towards trusting (e.g. a generally positive expectation of people). On the other hand since trust includes both expectations and vulnerability one may be swayed towards considering that remaining items in existing scales reflect important elements (e.g. caution and distrust, and uncertainty regarding the truthfulness of the trustee) that reflect separate processes. Although there are unquestionably some relationships between these processes, failure to separate them leads to an incomplete understanding of the role of propensity to trust as an antecedent to trust.

Focusing more specifically on the faith-in-people factor and caution factors, a further suggestion could be that they reflect expectancies of both trust and distrust. As discussed earlier (please refer to chapter 2 and chapter 4), evidence suggests that high trust and high distrust do not typically occur together (Saunders, Dietz, & Thornhill, 2014). However, as this analysis has shown, they are factors that may occur together at the antecedent stage of trust. Items comprising these factors concur with the behaviours and expectations evident in definitions for trust and distrust offered in chapter 4. Thus the caution factor may be interpretable as propensity to distrust since items express general reasons why one would be unwilling to make oneself vulnerable (risk of exploitation and being taken advantage of) or indicate typical behavioural responses to distrust (e.g. being cautious). Thus caution would appear to be a behavioural facet of propensity to distrust, but this may require further attention in future work to explore more fully.

Finally, the relationship between propensity-to-trust factors and the big five model of personality has to date been neglected, not least from a measurement point of view. Personality traits appear to influence *how* people respond to propensity-to-trust items. Although full causality cannot be established, it makes more sense to consider the role of higher order personality traits in driving a tendency for trusting and distrusting, rather than in the other direction. Findings here indicate that agreeableness and extraversion have a consistent influence on different facets of propensity to trust. This may relate to propensity to trust reflecting how people function within the social processes of which they are part. However, the additional relationships between conscientiousness and caution and between emotionality and concern with honesty are also of interest, since the data in this study suggest these traits may influence responses in different trust situations as discussed next.

As regards the surprising link between conscientiousness and caution, some studies have previously reported a relationship between high conscientiousness and an individual's trustworthiness, as well as their tendency to be more cautious (Olson & Suls, 2000). Focusing specifically on the results from the present study, Conscientiousness was shown to be a co-predictor of the caution factor. This may be because conscientious people have access to better self-regulation and control (Jensen-Campbell et al., 2002), leading to more cautious decision-making in return (Walczuch, Seelen, & Lundgren, 2001). As a result they manage to balance risks with opportunities more effectively. When presented with novel situations, such as meeting a stranger, a conscientious person may require more information before making a decision and remaining cautious until this has been acquired. Rather than suggesting that conscientiousness predisposes people to become more distrusting, instead cautious behaviour may be attributable to both conscientiousness *and* a tendency to be more distrusting.

HEXACO emotionality and 'concern with honesty' were shown to have another significant relationship. The Emotionality dimension on the HEXACO measures people's tendency to be ruled by emotion, with extreme scores indicating a lack of affect stability. The relationship found between emotionality and concern with honesty in this study suggests that those who are more neurotic have less optimistic views of people's honesty. Previous research supports this perspective (Evans & Revelle, 2008; Walczuch & Lundgren, 2004), though to date the research is sparse concerning the relationship between propensity to trust and emotionality. How this might affect perception of situations such as job interviews is unclear. One possibility is that emotionally less stable individuals may be approaching situations in which honesty is at stake with more apprehension, choosing to be less willing to expose themselves to risks involved. Translated to job interviews such perceptions may also influence perception of subjective

norms, for example beliefs in applicants' general tendency to fake which in turn may influence their own decision to fake. In research on faking a low propensity to trust in other's honesty may also lead to bias in disclosing and reporting sensitive behaviours for example if they suspect there are problems with confidentiality and anonymity (König, Hafsteinsson, Jansen, & Stadelmann, 2011), despite reassurances to the contrary. In this way propensity to trust in people's honesty may be a possible factor influencing faking during selection as well as impacting on studies of faking behaviours. Clearly more research is required to explore emotionality and people's beliefs and concerns about honesty.

Most importantly, even given some of the limitations, the study reported in this chapter seems to highlight a need to look carefully at the scales employed in research concerning propensity to trust. Existing scales clearly differ in the spread and scope of item content, and may therefore have different relationships with underlying personality traits. This insight led to a final post hoc series of stepwise regressions in which HEXACO scales were used to predict each of the propensity-to-trust scales used in this study (e.g. ITS, Faith in People, Social trust scale). Results are presented in Appendix 2 for clarity. In brief, the analysis showed that different scales are related differently to different traits. For example, the Mayer, Davis & Schoorman (1996) scale is statistically predicted by all but one of the traits (e.g. Openness does not predict overall Propensity to trust), the interpersonal trust scale (Rotter, 1967) is only predicted by Agreeableness). The regression indicated that almost all of the published scales used in this study were comprised of items belonging to more than one dimension of propensity to trust and are also predicted by multiple personality (HEXACO) traits. The combined evidence in this study suggests that propensity to trust is driven by multiple personality correlates, and that measurement of the construct through existing propensity-to-trust scales may be

more strongly dependent on personality correlates in some measures than others. In a challenge to past theory two questions arise. First, how appropriate, or useful, is it to consider propensity to trust as a unidimensional personality variable, since it does not seem to act as a proxy for any particular trait? Secondly how problematic is dimensionality of propensity to trust for theories built on the basis of previous unidimensional evidence of propensity to trust, since different measures appear to reflect different constructs?

5.5 Summary

In this study an argument for a multi-faceted view of propensity-to-trust scales was presented. Through exploring the factor structure of items using an item pool comprising multiple scales, new conceptual and methodological insights into propensity to trust have been gained. Evidence from this research supports the distinction between propensity to trust based on a positive general belief in people, propensity to distrust or caution, propensity to trust as based on beliefs about people's honesty and domain-specific perceptions about how trustworthy people are in workplaces. Evidence from cross-validation of these measures with personality traits also provides insight into how propensity to trust/distrust might pattern the unique process and experience in a given trusting situation. Further work is needed not only to replicate findings presented here, but to take account of the effect that differences between scales have had on development of theoretical models within the trust field.

Next, Chapter 6 explores dimensional structure further with reference to how people interpret propensity-to-trust items in order to gain additional insights into the different facets comprising propensity to trust.

Chapter 6 - Exploration of propensity-to-trust measures using card-sort

6.1 Introduction and aims of the study

The propensity-to-trust literature review (chapter 4) identified pertinent measurement scales and underlying dimensions using a review of the literature and content analysis. Data for these scales and their items were then subjected to factor analytic and regression analysis in chapter 5 in order to identify the content and dimensionality of such scales. In this chapter dimensions identified in the early stages of study 1 (chapter 5) are explored further using card-sort technique. The objectives of the present study reported in this chapter are twofold. Firstly, the aim is to explore alternative ways of assessing the dimensionality of published propensity-to-trust scales. Factor analysis can be a methodologically and conceptually time-consuming and as a sample-intensive process, can be constrained due to sample restrictions (see chapter 5 for discussion). Given the limitations of such statistical procedures concerning dimensionality, developing alternative methodological strategies would be useful in the review of other measurement instruments. Furthermore, content analysis reported in chapter 4 yielded poor levels of inter-rater reliability. More work using content-analytic methods could produce greater insights into construct-dependent reasons *why* raters made the coding decisions they did. The second, and more novel goal, therefore is the application of content analysis to the study of how people interpret psychometric items and the constructs by which they categorise them.

In this chapter a content-analytic study using card-sorts for exploring propensity-to-trust items will be presented. This is followed by a discussion of the findings and limitations. The final conclusion provides additional insights into the interpretation of

propensity to trust and also further areas of work on the measurement of propensity to trust.

6.2 Method

6.2.1 Design

This study employed a card-sort technique to facilitate content analysis of propensity-to-trust items. For a more detail discussion of the rationale behind this methodology and the methods refer to chapter 3, section 3.4.2.3. Few studies have applied content analysis to the analysis of survey items or psychological scales, making this an underexplored area. Also there may be times when researchers exploring dimensionality of item space cannot, for practical reasons, rely on sample intensive techniques such as factor analysis. As a result, exploring new methodological approaches has a potentially valuable contribution to make to the literature. In summary, the design of this study involves multiple raters sorting scale items into five distinct categories. Raters were tasked with providing ratings of each item's perceived fit with each of these dimensions.

6.2.2 Participants

Participants were recruited from a University research participant pool by email invitation. The participant pool included members of the public, but mostly consisted of undergraduate students and employees working at the Open University in academic and non-academic positions. Prospective participants were selected from this pool based on their proximity to the university. Of the 20 participants contacted, 9 responded (45% response rate). They included a postgraduate student and an 18 year old A-level student from a local secondary school. The remainder consisted of employees at the Open

University. All were volunteers and invited to participate in the study at a time convenient to them. They each received a £10.00 John Lewis voucher for their involvement in the study.

6.2.3 Materials and measures

78 Items from the propensity-to-trust scales identified in the earlier literature review (chapter 4) were printed onto A6 gloss cards, one per card. As in the earlier study duplicate items were removed. Each card was assigned a code to identify its variable name and number to ease identification and resorting. This information was printed at the bottom of each card. Participants were provided with a rating sheet and five file boxes into which they were asked to sort the cards. The rating sheet required a rating of each item according to its perceived fit with each of the five dimensions using a five point ordinal level non-ipsative rating scale (ranging from '0' or blank = no fit to '4' = a perfect fit). Participants had a further sheet listing the names and short descriptions of the dimensions. To make these dimensions more comprehensible, factor labels were applied to better reflect their items (table 6.1).

Table 6.1

Factor names and names adapted for card-sort

<i>Factor name</i>		<i>Adapted name</i>
Caution	⇒	'Best to be cautious'
Faith in people	⇒	'People are good'
Concern with Honesty	⇒	'Trust in honesty'
Trust in work	⇒	'Trust at work'
Role expectation	⇒	'Trust in particular roles'

The five dimensions were identified earlier during exploratory and confirmatory factor analysis, using varimax rather than oblimin rotation during the EFA stage. This differed from the final five-factor model reported in chapter 5 which was based on an oblimin-rotated solution. The earlier five-factor model did not have the limitations of

containing implausible factors, but was subsequently abandoned in recognition of factor correlations which suggested that an obliquely rotated model was a better model to use (see also sections 3.3.2 and 3.4.2.3).

6.2.4 Procedure

The procedure for this study was based on card-sort method (Rosenberg et al., 1968; Rosenberg & Park Kim, 1975; Whaley & Longoria, 2009). The study had been ethically approved by Human Research Ethics Committee (HREC).

Participants were provided with a short summary of the research and given short descriptions of each of the five pre-identified factors. They were then given a further explanation of the background to the 78 item cards and asked to evaluate the fit of each item with the dimensional categories. The procedure they were asked to follow involved participants reading each item, and deciding in which one of five category boxes to place the item. They were then asked to rate each item's fit against the five factors using the five-point response scale before categorising and rating the next item. Using this approach, participants could indicate a strong fit for each item with more than one dimension. Importantly they were instructed not to rate the item according to how well it fitted to themselves, instead they were assessing the fit of the item to the category. This process was clarified with an example. They were informed the task would take approximately one hour to complete. Following these instructions, participants were told that they could withdraw at any time and asked to give their consent. Descriptions of the factors and rating scales were displayed on the wall adjacent for easy referral.

Participants were fully debriefed at the end of the task. A short informal semi-structured interview was carried out concerning their experience of completing the task and the thought processes that they used to determine item categorisation and ratings.

The researcher remained in the room throughout the task to answer any questions.

6.3 Analysis

6.3.1 Statistical analysis

In order to determine multi-rater reliability across multiple dimensions for each item, Krippendorff Alpha (Hayes & Krippendorff, 2007) was used. This statistic is regarded as a standard measure of rater reliability (Hayes & Krippendorff, 2007) and expresses the level of agreement between raters across a multidimensional construct space as a coefficient ranging from 0.00 to 1.00, similar to other measures of reliability such as Cronbach alpha. Unlike other rater reliability measures, however, it can assess reliability across multiple coders and across multiple objects of measurement such as factors, dimensions and items.

Separate analyses were conducted for each item and dimension, and an analysis of the overall rater reliability. When all of the items were included to discern the reliability of these ratings across all five dimensions, the overall Krippendorff alpha obtained was low (alpha = .29). Similarly, raters showed little agreement in their allocation of items into the five dimensions (table 6.2). Krippendorff alpha was also computed at the item level across dimensions. The average alpha per item was .29, similar to that of the overall K alpha. Few of the distinct items exceeded K alpha .5, and only two items ('Most people are basically honest' & 'People usually tell the truth, even when they know they would be better off lying') showed agreement at .65 level. Thus, the rater agreement on item fit by dimension was generally very low. Table 6.3 identifies the 12 items with highest agreement (K alpha >.5) and shows the frequency of raters who were rating this as the best fitting dimension.

Table 6.2

Krippendorff alpha, means, standard deviation and range of item ratings for each of five P2T dimensions

<i>Dimension</i>	<i>K alpha</i>	<i>Mean</i>	<i>S.E</i>	<i>Min</i>	<i>Max</i>
Faith in people 'People are good'	.21	1.91	.78	.78	3.78
Caution 'Best to be cautious'	.15	1.51	.76	.11	3.11
Trust in work 'Trust at work'	.24	.79	.73	.00	3.44
Concern with honesty 'trust in honesty'	.25	1.54	.88	.00	3.67
Role expectation 'trust in particular roles'	.35	1.06	.98	.00	3.56

Note: Min and Max reflect the average ratings for each dimension across items and raters. Thus the highest item rated in Faith in people had a rated average of 3.78.

In order to compare the effects of dimension and items on coder-ratings statistically, a 2 x 2 repeated-measures ANOVA was carried out on a data set transposed so as to enable computation of ANOVA statistics with SPSS. Under the null hypotheses raters should show no differences in the way they discern items, dimensions and in how they allocate these items to the dimensions (no differences implying a high level of agreement). Sphericity as assessed via Mauchley's W (Mauchly, 1940) confirmed that the assumption for sphericity holds for the data set, thus no further corrections to the degrees of freedom was needed. There were significant effects for items ($F(77, 616) = 1.559, p < .003$) for dimensions ($F(4, 32) = 7.274, p < .001$) and for the item x dimensions interaction effect ($F(308, 2464) = 7.303, p < .001$), thus supporting the results obtained from the Krippendorff alpha analysis of little rater agreement.

6.3.2 Informal interviews summary

Informally interviewing participants after their coding revealed that distinct strategies had been adopted to allow them to distribute the items over the construct space. For example, some had decided to allocate items across a limited number of dimensions, and so failed to make use of the full dimensional space that was offered.

Table 6.3

Items with highest Krippendorff alpha and agreement data

<i>Item</i>	<i>K alpha</i>	<i>Dimensions</i>					<i>Ties</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	
q1 Most students will tell their instructor when he or she has made a mistake in adding up their score, even if the instructor did give them more points than they deserved.	.52	1		1		7	
q3 People usually tell the truth, even when they know they would be better off lying.	.65	1			6		2
q5 Most people are basically honest.	.67		1		6		2
q15 Generally speaking, I would say that people can be trusted.	.58	6				1	2
q17 People try to be fair.	.56	8					1
q28 Using an honour system of not having a teacher present during exams would probably result in increased cheating.	.53		1		5		3
q29 Parents can usually be relied on to keep their promises.	.53	7	1			1	
q30 The United Nations will never be an effective force in keeping world peace.	.51		1			7	1
q31 The judiciary is a place where we can all get unbiased treatment.	.68					7	2
q35 The future seems very promising.	.52	8			1		
q36 If we really knew what was going on in international politics, the public would have reason to be more frightened than they now seem to be.	.51		2			7	
q68 When I order something I've never seen through the mail or by telephone, I am confident that the product will arrive as promised.	.59					6	3

1 = people are good; 2 = best to be cautious; 3= trust at work; 4= trust in honesty; 5= trust in particular roles

Participants' use of this approach suggests trusting might be regarded as dependent on far fewer, and more general factors, such as a faith in human nature. In looking more closely at the items with the highest rater agreement, these include the following dimensions: faith in people, trust in role expectations and trust in honesty, but not caution or trust at work.

In contrast, other participants used the polarity of the item as a means of discerning where it should be placed. Some of these participants indicated how they viewed positively worded items as denoting 'trust' while negatively worded items were categorised as either an absence of trust, or of distrust, as something to be avoided.

When asked to give examples to some of their comments, a further, third strategy for sense-making became apparent, via their own experience of employment and people they knew. For example, in completing the task one of the respondents thought about his first job at a bank. He experienced a conflict with the ethics of what he and others were doing, which ultimately led to his voluntary exit from the organisation. As a result he indicated that he viewed certain types of organisations (e.g. banks, financial) in a more negative, less trusting way. Others reflected on their experience of organisations implying that although they might trust individuals within an organisation, they were more reserved around placing blind trust in an employer, because things could easily change and security may not be guaranteed.

6.4 Discussion

Results of the card-sort exercise and subsequent analysis suggest that variations among raters across items, dimensions and their interaction differed significantly, producing generally low levels of rater agreement on the categorisation of items into the five dimensions of propensity to trust. Post-rater interview results from this content-analytic task confirmed the high level of overlap between these distinct dimensions participants perceived, thereby making the separation between dimensions difficult to achieve. This result echoes the difficulties of subject matter experts in reaching substantial agreement levels (see chapter 4, section 4.3.1). To date little published research has used content analysis in the identification and corroboration of factor structure, and yet the results obtained here suggest it may be a very useful tool.

While there has been earlier content-analytic examination of the measurement of trust concepts (e.g. Dietz & Den Hartog, 2006), the reliabilities were not reported. Although such work was clearly undertaken in a systematic way, a lack of metrics on rater

reliability leaves significant omissions in our understanding of the quality of the content-analytic methodology being employed. This present study reflects state of the art thinking on assessment of inter-rater reliability (Hayes & Krippendorff, 2007) and demonstrates the innovative applications of a methodological approach in exploring reliability of ratings of trust measures. The low reliability for both subject matter experts and these latest participants raises questions about how people interpret, and make sense of propensity-to-trust items and the dimensions which underlie them.

The interview data highlights nuances that are also present in the factor analysis as well as previous work. Some of the approaches taken by respondents concur with the distinction between positively and negatively worded items also found in the factor analysis in study 1 (see chapter 5) and which may reflect different propensities of trust and distrust (e.g. Huff & Kelley, 2005). Respondents' view of negative items as describing things best to be avoided implies that negative items have prohibitive and avoidable qualities, whereas positive items have permitted and approachable characteristics. This may suggest different underlying processes perhaps reflecting differences in information processing in the avoidance vs. approach systems of the mind (Neumann & Strack, 2000). However, since there was little agreement on which of the items were categorised as 'caution' it is important to note that not all respondents interpret items in this simple dichotomized way.

Another approach that respondents used was by making a distinction based on their own experiences from personal, work, or other relationships and with their institutions. Drawing on such experience implies the influence of social experiences that shape people's understanding of trust situations throughout their lifespan (Lewis & Weigert, 1985). Social experiences of employment and entry into organisations can be a potential source of how trustworthy one perceives others to be (Ashforth & Saks, 1996). Differences

in how participants respond to propensity-to-trust items may in part be explainable via the effects of such experience.

However, without further study it is not possible to be more than just speculative at this stage. The idea that trust is based on a transactional history is not new (cf. Kramer, 1999, p. 575), although previous work has mostly viewed historic processes as specific to dyadic relationships in which trustors and trustees interact. Considering propensity to trust there is a scarcity of work on how a general tendency to trust is influenced by a person's previous experiences and how previous exchanges set a baseline from which new exchanges are judged.

Therefore, whether experience of different organizations broadens or polarises the interpretation of items and dimensions could be an area that merits further investigation. Questions raised here are how employees and organizations can create very salient examples of both trust and distrust. Such insights would be useful in adding to our understanding of how best to assess the influence of experience as an antecedent to a general tendency to trust as well as to trust itself.

6.4.1 Limitations

Concerns around methodology may ultimately limit the more widespread application of the approach taken in this study. Although it is innovative it has limitations which are discussed next. The cognitive complexity and time required completing the sort and rating tasks is an obvious concern. Next is the obvious fatigue of such a task. Such fatigue could be overcome by using smaller set of items with multiple groups of raters in order to reduce fatigue; each group of raters would only rate a subset of the entire item pool.

In chapter 4 coding was carried out by subject matter experts. In contrast, only a few of the participants in this study had psychological training, and none had prior knowledge of trust research. On one hand this means applicants were not engaging in the process with prior theoretical agendas that might lead to self-fulfilling bias in item interpretation. On the other hand, although participants were briefed on survey methodology and how items and rating scales are used in psychological research, it is unclear how well they really understood the relationship between the items and the generic dimensions under which items could be categorised. All of them appeared to have some familiarity with surveys, and understood the basic principles of high and low scores and how overall scores could be computed, for example by adding item scores. Care was also taken to provide a background to the study and some rationale, without leading participants to expect that one particular way of coding items was preferable over another. The effectiveness of the instructions is evident in respondents' categorisation of items into all five dimensions. When looking only at the few items that achieved high inter-rater reliability, only three dimensions, faith in people, beliefs in people's honesty and beliefs about trusting particular roles were used. The explanation for this may be in part methodological.

6.4.1.1 Cognitive load

The allocation of items to the five dimensions may have been a difficult task for non-psychologists to comprehend or perform, and the debriefing interviews, indicated that participants found the task difficult, possibly leading to participants categorising items inconsistently. It has long been known that negative statements take longer to process and increase cognitive load (Wason, 1959). This might explain why there was little agreement across dimensions but specifically, the least amount of agreement on any of the items reflecting the caution factor in the factor model (see chapter 5), as all of

these were negatively worded. One strategy for dealing with high cognitive load may have been participants' avoidance of allocating items to a category that produces increased levels of cognitive load or to rate items lower, as the overall lowest maximum average rating for caution appears to indicate (please refer to table 6.2 above).

Other sources of increased cognitive load include *task complexity* (e.g. the task required participants to consider what a high score on a negatively or positively worded item meant and then whether or not it fitted with the underlying dimension) and *task ambiguity* (leading participants to interpret items as they fitted to themselves, despite instructions to the contrary). This is similar to the effects of item ambiguity/complexity Podsakoff et al. outline (Podsakoff et al., 2003), but these effects normally refer to the content of items rather than task/item interaction. Nevertheless, when faced with a task that demands a great deal of cognitive effort as a result of task complexity and ambiguity, reliance on unique work experience might explain why participants showed very low agreement on items belonging to the 'trust at work' dimension.

Considering the effects of cognitive load provides a further insight into how participants in study 1 responded to propensity-to-trust items. Cognitive load arising from negative item wording may well also be a source for the caution factor if respondents endorse items according to their polarity, rather than the content. Further work is needed specifically on propensity to trust and distrust in order to understand better the potential spuriousness of a caution/distrust factor.

6.4.1.2 Item context effects

A further methodological bias affecting the rating could be the presence of *context effects*. Context effects refer to...

'...any influence or interpretation that an item may acquire purely as a result of its relationship to the other items making up a specific test' (Wainer & Kiely, 1987, p. 187).

The instructions stated that there was no right or wrong way to place or rate items into categories. However In this case the actual placement of items into categories may produce one such context effect. Some participants indicated that they monitored where and how many items they had already placed into a card pile and adjusted their strategies to ensure that they would be placing at least some items into low frequency categories in order to avoid not placing any at all, or balancing the number of items in each category based on their placements of other items. It is difficult to quantify the extent of this except through reference to the low levels of agreement. However, uncovering such effects reinforces the practice of asking coders about their experiences and to consider ways of controlling bias effects in further studies. Several approaches to preventing context effects found in this study could be used. By removing any visible indication of how many cards are in an existing pile and using computerised single screen data input forms for ratings should help to reduce item context interference with categorisation and rating tasks.

6.4.1.3 Input dimensions

In reflecting on the detailed analysis, the dimensions used in study 2 originated from an earlier EFA analysis based on varimax rotation. While this appeared to be a plausible approach, subsequent reading indicated that an oblimin rotated solution would be the better approach due to the presence of noticeable correlations between factors. The subsequent lack of agreement in study 2 above may therefore reflect invalidity of the dimensions produced during the earlier factor analysis. This raises the possibility that

respondents were asked to categorise items into invalid dimensions, thereby increasing the problems respondents experienced in allocating items to the dimensions

6.5. Summary

Using content analysis for evaluating psychometric items is a novel approach to item analysis, comprising the simultaneous evaluation of items from multiple scales, without the necessity of large samples. However, rather than replacing other methods, such as factor analysis, this new approach complements the current findings and raises interesting further insights concerning these items' interpretations and their dimensionality. From this final study a number of methodological issues emerged that help understand the implications of work in the previous chapters.

The results from the present content analysis were somewhat disappointing since raters did not show a great deal of agreement in item factor correspondence. On the basis of the present evidence using this approach to identify the dimensional structure cannot be recommended as a way to separate dimensions, or confirm those generated via factor analysis. Nevertheless, this study has surfaced some important insights into the different ways in which individuals might construe propensity-to-trust items, and judge what the item measures. This leads to further questions about what people base their responses to propensity-to-trust items on. Each individual brings a personal set of experiences and values to a trust situation, and this appears to influence people's interpretation of propensity to trust items. The results suggest how salient life experiences and knowledge of different situations can shape understandings concerning when to trust, or be more cautious or distrust. Furthermore in answering the question about how important domains are in responses on propensity to trust this study suggests that domain experience may be a critical aspect of how people interpret trust

situations, by drawing on previous experiences and interactions that are transferred to the current context. Whilst propensity to trust can be conceptualized as a precursor to trust in social exchange there appears to be a dearth of evidence showing how a general tendency to be trusting is created and then how this affects the subsequent processes of evaluation required for trust expectations and trust behaviors.

Chapter 7 - Trust at the post-application stage

7.1 Introduction and chapter overview

In the following chapters (7, 8 and 9) we return to the topic of trust and recruitment by examining findings from a study of a four-stage selection process. Specifically this study considers applicants applying for a place on a research degree at the Open University during 2012 covering the period from January to October. Reporting the findings is divided into three chapters. The present chapter addresses the research questions relating to the role of trust in recruitment and attraction during stage 1 of the process:

1. *What influences applicants to apply for a research degree?*
2. *What role does propensity to trust, and confidence to trust play in this process?*

To put this chapter in context, chapter 8 will examine data pertaining to the subsequent post-interview stage (stage 2), while addressing questions about the relationships between justice, trust perceptions and selection outcomes. Finally, chapter 9 will explore the qualitative data-analysis of stage 1 and 2 open question responses.

The present chapter is organised by commencing with a review of the methods used, including the measures used to operationalise the constructs of interest. Next, analyses of data concerning the variables is reported, followed by discussion of the findings and limitations before drawing final conclusions.

7.2 The effect of propensity to trust and confidence on attraction

7.2.1 Hypotheses

The hypotheses presented in this section are a further development of hypothesis 3 in chapter 2).

Previous work (see chapter 2) has identified information as a critical variable influencing applicants' decisions in the pre-entry stage (Barber, 1998). How applicants obtain and utilise information, for example through their social networks and use of third parties, has become the focus more recently (Van Hoye & Lievens, 2009; see also discussion of informational uncertainty in section 2.3.3.2.2). Although some attention has been given to the role of third-party exchanges and trust/distrust (Burt & Knez, 1995) this has not been considered within a selection context nor has the role of propensity to trust been considered. Therefore the first hypothesis investigated in this part of the study is the following:

H3.1 There is a positive relationship between applicants' propensity to trust and their use of social sources of selection information (third-party information).

In addition, recruitment and selection is a context for initial trust (Searle & Billsberry, 2011) in which propensity to trust is an important baseline variable influencing perceived organisational trustworthiness. Previous recruitment research suggests that both organisational reputation and organisational information can provide clues regarding the trustworthiness of an organisation (see chapter 2). Considered in the context of initial trust during recruitment, both organisational reputation and information may serve to provide cues as to the appropriateness of one's structural assurance and situational normality assumptions (McKnight et al., 1998) or may be sought out as proxies for organisational trust (Kramer, 1999). How propensity to trust influences applicants to

attend to reputational or organisational information has not previously been investigated. Based on models of initial trust (e.g. Mc Knight et al., 1998), those high in propensity to trust should be more likely to assume such beliefs, but little is known about the roles of organisational reputation and information in this process or the role of propensity to trust in influencing applicants to rely on these sources. As a result this study explores the link between propensity to trust and organisational reputation and information. The corresponding hypothesis is:

H3.2 There will be a positive association between applicants' propensity to trust and their use of organisational information sources (organisational trust).

H3.3 There will be a positive association between applicants' propensity to trust and the perceived reputation of the organisation (organisational trust).

In recruitment campaigns for research and other postgraduate degrees, career advancement is often marketed amongst other things, as a selling point, which was also the case for the Open University. In contrast with the other elements discussed above one would expect propensity to trust to have a more diffuse effect on career-based reasons for applying, as there does not appear to be an obvious literature supporting a link. In this study career based reason were included for pragmatic reasons as part of the applied interests of the research school in supporting this research. Hence

H3.4 There will be no relationship between applicants' propensity to trust and their other (e.g. career based) reasons for applying for a job.

In recruitment settings, self-efficacy increases individuals' tendency to seek opportunities for fitting themselves to jobs in organisations that closely match their own ability (Cable & Judge, 1994; Ehrhart & Ziegert, 2005). Previous work has also shown that confidence influences job pursuit behaviour (Schreurs, Derous, Van Hooft, Proost, & De

Witte, 2009). Self-confidence and efficacy appear to play a role in the information-seeking strategies that people use to assess and manage uncertain and risky situations (Locander & Hermann, 1979) such that low confidence increases information-seeking strategies and thereby reduces uncertainty, for example in purchase decisions. Applying these insights gained from marketing perspectives on confidence and risk reduction to recruitment contexts fits well with signalling theory specifically job marketing perspectives (see also chapter 2, section 2.3.1.2) and brings into focus elements of trust and those related to trust (e.g. confidence; confident expectations). In line with such previous work, confidence relating to specific aspects of undertaking a job that is advertised should influence information-seeking strategies used by applicants during recruitment, whereas more general confidence should not (cf. Locander & Hermann, 1979). More specifically, those applicants who lack confidence relative to others should be more likely to seek out information. Previous work on confidence (e.g. Locander & Hermann, 1979) distinguishes between sources of information, although these are not strongly related to sources of recruitment information. In recruitment contexts there are a variety of different sources (e.g. reputation organisational information and third-party effects). The role of confidence on information seeking from a variety of different information sources has not previously been investigated in job applicant and investigating this in a group of research degree applicants allows insight to be gained into the relationship and interaction between efficacy and propensity to trust on the influence of different information sources in recruitment contexts. The hypotheses related to confidence are therefore as follows:

H3.5 There will be a negative association between confidence and information seeking from third parties, organisational reputation, use of organisational information sources and career development reasons.

7.3 Method

A multi-stage approach was adopted examining the role of propensity to trust and trust perceptions during the selection stage, between application submission and interview (referred to as stage 1). Applicants were contacted and invited to complete an online survey pertaining to their recruitment and selection experiences at two distinct points during the recruitment and selection process. First they were contacted, after they had submitted their application for a PhD and prior to being informed of the outcome. They were then contacted again following their interviews (as discussed further in chapter 8).

7.3.1 Measures used in the study

The survey tool was developed in consultation with the OU Research School (Please refer to Appendix 1). The following scales/items were used.

Source influence scale

A new scale was developed with consideration of previous work in this area (Van Hove & Lievens, 2009) in order to capture the variety of sources that might influence applicants' decision-to apply for this position. Consistent with previous work on third-party effects, six items referred to third parties who had varying degrees of tie strength (Van Hove & Lievens, 2009) such as close family, peers, and former lecturers. Further items referenced information provided by the recruiter for the purpose of recruitment, information intrinsic to the applicant (e.g. career progression, knowledge of supervisors' work) and general perceptions of the organisational reputation and image. Rather than merely asking which information sources they had used or how much time they spent on each sources, applicants were asked to rate the importance of each information source in their decision to apply using a five-point importance scale (unimportant (1) to very

important (5)). Items were scrutinised for their content quality by subject matter experts (PhD supervision team) and tested on members of the research school team.

Confidence/efficacy

Existing scales of efficacy were explored and considered inappropriate in their current format to use, so a modified four-item scale was devised which included four confidence issues relevant to registering for a PhD: General confidence in being able to complete a PhD, confidence in one having the specific skills and abilities necessary to complete, confidence in one's support network, and confidence in being able to manage through this period financially. Financial confidence was included as support and financial aspects have previously been identified as contributors to pursuit of a PhD (Stewart, Williamson, & King, 2008). Each item was scored on a five-point scale ('I am not at all confident' (1) to 'I am completely confident' (5)).

Propensity to trust

Previous research examining propensity to trust within an attraction context found both propensity to trust and organisational trustworthiness play significant roles in attraction (Kausel & Slaughter, 2011). In the initial stage only propensity to trust is investigated, with organisational trustworthiness added at stage 2. As indicated earlier (chapter 4 and 5) the NEO propensity to trust subscale was selected on empirical but also conceptual and pragmatic grounds. The NEO trust scale is part of a widely used personality research tool and thus offers greater comparability with other studies utilising the same measure. The items used represent an eight-item scale rated on a seven-point Likert response format (Completely disagree -1 to completely agree-7).

7.3.2 Procedure

Participants were contacted via an electronic invitation and asked to complete a survey. This process was managed by the research school, which provided applicant details to enable tracking. The survey team of the Institute of Education and Technology (IET) prepared the survey, sent out invites and devised the raw data Excel spreadsheets including relevant demographic data (age, gender, and other student information) associated with each participant.

7.3.3 Sample

The survey was attempted by 165 participants (with 8 cases removed where applicants had opened but not completed any of the responses in the survey). The sample comprised 78 women and 79 men. The average age was 39.5 with a median age of 38. There were no differences in ages between men and women. 66% of applicants had earlier undertaken study with the same institution. 55% of participants were white, 20% were black, 16% were Asian, 1% were mixed, 3% were Chinese or other; 5% were unknown. 64% of applicants were employed, 10% were in full time education with the remainder, retired (1%), unemployed (8%), self-employed (9%), on long term sick leave (2%) or of unspecified employment status (6%). In terms of their applications the majority of applicants (77%) were registering for a PhD, with 15% applying for a Doctorate in Education (EdD), 6% for a Masters in research methods (MRes), and 2% for a master in philosophy (MPhil) including the virtual MPhil (an online supported MPhil offered by the computing department).

7.3.4 Ethics

The study complied with the Open University ethics policy being approved by the Human Research Ethics Committee (HREC) as discussed in more detail in chapter 3, section 3.3.4. As this study involved students, the Student Research Project Panel (SRPP)

was involved to advise on data collection and ethics as well as give final approval the study. Applicants were informed of their right to withdraw from the study, their anonymity and confidentiality of their personal data before being asked to give their consent. The project was registered with the Open University's data protection unit.

7.3.5 Data preparation

All of the negatively worded items in the propensity-to-trust scale were reverse coded. All analyses were performed with list-wise deletion of missing values (Allison, 2001) using SPSS default markers. This approach while the simplest form of treatment for missing data treatment is also argued to produce less biased results at the expense of reducing sample size (Allison, 2003). For the analyses using MPLUS, data were prepared using spread sheets so that any cases with large numbers of missing data in the variables of interest could be deleted listwise. Where there was only one missing value, a marker was added to the data so that it was recognised by MPLUS as missing. Univariate and multivariate normality and outliers were inspected for each variable during the analytic process. Computation of multivariate normality indexes via the FACTOR programme only used cases without missing data (n=143 to 146) due to software constraints.

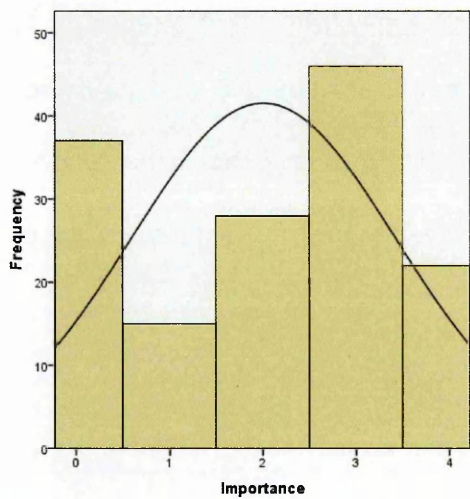
7.4 Results

7.4.1 Source influence

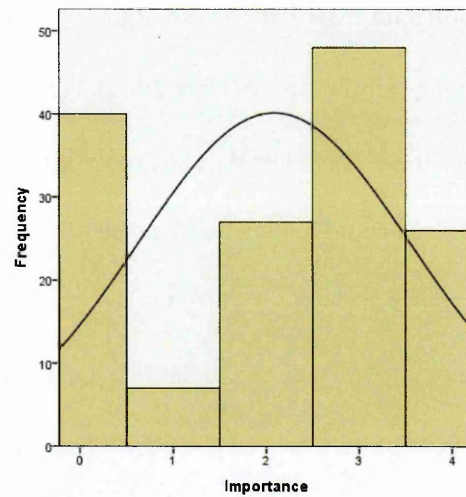
Factor analysis was used to confirm whether the source influence scale comprises multiple dimensions. The results of both Shapiro-Wilk and Kolmogorov Smirnov tests showed significant deviations from normality with responses clustering at the top range in terms of their importance (scores of 4 and 5). However, examination of Mardia's multivariate normality results using the FACTOR computer programme (Lorenzo-Seva &

Ferrando, 2006; Lorenzo-Seva & Ferrando, 2012) did not indicate significant multivariate skew and kurtosis.

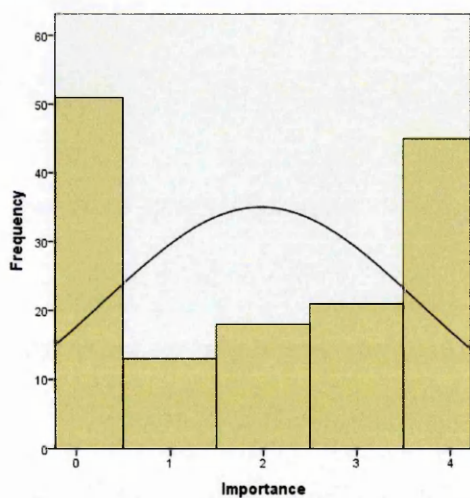
Analysis of applicants' responses suggested distinct subgroups within the distribution of some variables (see the summary of odd distributions in Figure 7.1, Q11.5, Q11.6 Q11.7, and Q11.10) indicated by bimodality at each end of the scale. One possible interpretation is that there may be two types of applicants: Those for whom the source of information is completely irrelevant (ratings are 0-unimportant) and those for whom it is important but to varying degrees.



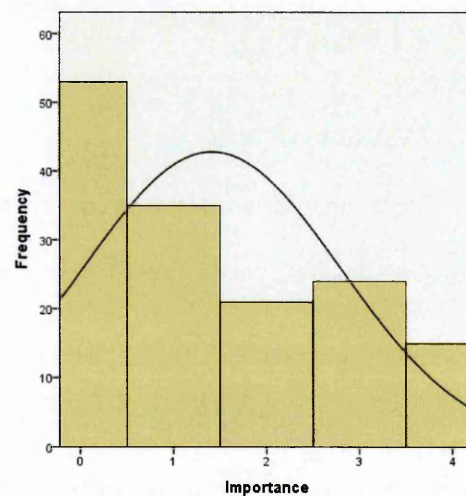
Q11.5 Recommendations from peers



Q11.6 Recommendation from former tutors, lecturers or other academics



Q11.7 Personal previous experiences of the Open University



Q11.10 Close family and friends

Figure 7.1 'Odd' distributions of source influence variables

Exploratory factor analysis of the items comprising the source influence scale (q11.1-q11.12) was conducted. Inspection of the component correlation matrix suggested that there was sufficient correlation between the extracted factors confirming the solution was not orthogonal; oblique rotation (OBLIMIN) was therefore used to provide a better estimate of factor loadings. SPSS was set up to extract factors with eigenvalues above 1.0 and extracted 3 factors (INFL1, INFL2 and INFL3; see Table 7.1 below). KMOs were found to be acceptable (KMO= .769).

Parallel analysis using O'Connor's (2000) SPSS macros suggested that there was only one factor present. Initially, ignoring the results from the parallel analysis, and focusing on the structure of factors enabled further exploration of the items. (The unconstrained factor structure inclusive of loadings is shown in table 7.1 and the factor correlation matrix in table 7.2).

Table 7.1

Factor structure of influences

Pattern Matrix ^a	Factor		
	1	2	3
Recommendation from peers (q11_5)	.789	.062	-.091
Others who are studying for a research degree at the OU (q11_8)	.780	.091	-.035
Others who are studying for a research degree but not at the OU (q11_9)	.576	-.013	-.012
Close family and friends (q11_10)	.571	-.019	-.002
Recommendation from former tutors, lecturers or other academics (q11_6)	.510	.427	-.065
Information provided by others (q11_4)	.507	-.029	.324
Employer supports my interest in a research degree (q11_11)	.411	.002	.105
I need this research degree to progress in my career (q11_12)	.389	-.302	.164
Knowledge of the work of potential supervisors at the Open University (q11_2)	.102	.481	.243
Personal previous experiences of the Open University (q11_7)	.018	.399	.068
Information provided by the Open University (q11_3)	.034	-.023	.649
The reputation of the Open University (q11_1)	-.027	.254	.607

Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.

Table 7.2

Factor correlation matrix for influences

Factor	1	2	3
1	1.000	.157	.454
2	.157	1.000	.195
3	.454	.195	1.000

Extraction Method: Principal Axis Factoring.
 Rotation Method: Oblimin with Kaiser Normalization.

Three factors were extracted which are referred to as influence 1, 2 and 3.

- Factor 1 (Influence 1) mostly refers to external, third-party sources of influence, but also includes two cross-loaded items, (q11_6 and q11_4). Influence 1 includes two items (Q11_11 AND Q11_12), with loadings less than .5, and which also do not fit well with the theme of external, third-party influences on decision making. These cross-loaded items and those indicating poor fit were removed and a 4-item scale (Third party 4) and 2-item scale (Third Party 2) computed. Inspection of reliabilities for these two new scales were at acceptable levels (Third party 4: alpha =.766; Third party 2 alpha =.794).
- Factor 2 – (Influence 2) comprises items with loadings of less than .5 and does not seem to have a clear plausible interpretation. One possibility is that it reflects intrinsic factors, personal experience and knowledge of a potential supervisor’s work which are located in the applicant. Alternatively the one item (‘Recommendation from former tutors, lecturers or other academics’) which loaded on both factor 1 and factor 2, suggested that the scale represents knowledge of the Open University, based on applicant’s own knowledge and experience and that of others. There are no other noticeable cross-loadings with other factors. Inspection of internal consistency indicates significant problems with this scale (alpha =.361).

3. Factor 3 (Influence 3) appears to reflect specific information sources originating from the Open University and the general reputation of the university. Judging from the factor correlation there appears to be a small relationship between this reputational factor and third-party factor influence 1. A common perception of the Open University is that its reputation is based on the quality of the materials. Therefore this factor may simply reflect information applicants received which helped shape reputational image and a perception of the Open University brand. The relationship between third-party factor and influence might suggest that third-party information strengthens the effect of organisational reputation and information. Internal consistency indicated a scale with low reliability ($\alpha = .601$).

Because parallel analysis suggested only one factor was present across all items, one could not rule out that the items assessing influence represent an overall tendency of applicants to be swayed in their decision making by a variety of sources. A follow up EFA found that all items except item 7 show salient loadings when SPSS is forced to provide a single factor solution. Top-loading items are similar to those in the previous EFA. The Cronbach alpha for this scale ($\alpha = .815$) exceeds estimates for the social influence scales described above.

Since the hypotheses for this study require exploration of multiple sources of influence, a decision to recombine items based on variable conceptualisations rather than factor conceptualisation was made. Previous research suggests that third-party influence is a different type of influence compared to information applicants receive directly from an organisation (Van Hove & Lievens, 2009), and so supports the separation of third-party sources from organisational information sources. Also, theory suggests that career and employability concerns are instrumental in shaping people's desire to pursue advanced

study (Golovushkina & Milligan, 2012; Rae & Woodier-Harris, 2012). Reputation of an organisation could also be regarded as a separate dimension, with some authors arguing it is a proxy form of trustworthiness (Bennett & Gabriel, 2001). Use of the single factor scale in this case would obscure potentially meaningful aspects of attraction and recruitment influence. Based on the aforementioned results and considerations of the pragmatic aims of this study, it was decided to create four ad hoc source influence variables: Peer Influence (INFLSOC, equivalent to Third party 2; two items), Reputational Influence (INFLREP, single item, q11_1), Organisational Information Influence (INFLORG, single item, q11_3) and Career-based influence (INFLCAR, single item, q11_12).

7.4.2 Confidence

Data on all four confidence/efficacy items showed significant negative skew indicating applicants in the sample were very highly confident. This is not entirely unexpected as PhD applicants might be expected to have higher levels of confidence, thus there is a restriction of the range in this sample, when compared with non-PhD applicant populations.

Further, the reliability of the four-item scale indicated that proceeding with this measure was questionable. An EFA using Principal Axis factoring and Oblimin rotation was carried out to assess whether there was a way of splitting the items into multiple scales of efficacy. The KMO for this EFA indicated there may be some problems with factoring (KMO=.631). Two Factors with Eigenvalues larger than 1 were extracted. Two items ('confidence in skills and abilities', 'generally being able to complete a PhD') loaded well onto factor 1, but the third item ('confidence in support network') was cross-loaded with both factors, and thus factor 2 appeared redundant with only one non-cross-loading item (See table 7.3 below). The redundancy of factor 2 also corroborates the Parallel analysis (MAP and revised MAP) which indicated the presence of only one factor.

Table 7.3

Exploratory factor analysis of confidence scale

Pattern Matrix^a

	Factor	
	1	2
Q21_2...in your skills and abilities to complete a research degree?	.959	-.143
Q21_1...in generally being able to complete a research degree?	.790	.024
Q21_3...in your support network helping you progress through your research degree?	.560	.489
Q21_4...in your ability to manage a research degree financially?	-.054	.647

Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.a.

Rotation converged in 5 iterations.

Cronbach alpha for the two top-loading items was acceptable ($\alpha=.842$) (2 item scale EFG - general confidence). Items 3 and 4 were used as single items in subsequent analyses (EFF = financial confidence; EFS =Social support confidence) as they were of practical as well as theoretical interest.

7.4.3 Propensity to trust and propensity to distrust

Items for the NEO measure of propensity to trust appeared to be significantly negatively skewed, and a test of multivariate normality confirmed this result.

Exploratory factor analysis using Principal axis factoring and OBLIMIN rotation was conducted on a sample of 143 valid cases to establish whether there was evidence for clustering of items on different factors. Factors were extracted on the basis of an Eigenvalue greater than 1. KMOs show that one should proceed with a factor analysis (KMO= .79). In line with expectations (Patent & Searle, 2012) and with work reported in chapter 5, the propensity to trust construct appeared to have dimensionality, and so warranted the splitting of the scale into a separate trust factor (P2T) and a distrust factor (P2D). The structure of these propensity-to trust-factors is shown in table 7.4 below.

These factors were correlated ($r=.388$). While results from Parallel analysis supported this two factor application, those from the revised MAP procedure only

Table 7.4

Factor structure of Propensity to trust (NEO scale)

Pattern Matrix^a

	Factor	
	1	2
Q23_3 I have a good deal of faith in human nature	.850	.132
Q23_4 My first reaction is to trust people	.745	.096
Q23_7 I believe that most people are basically well-intentioned	.698	-.165
Q23_1 I tend to assume the best of people	.696	-.079
Q23_8 I think most of the people I deal with are honest and trustworthy	.620	-.137
Q23_6 I'm suspicious when someone does something nice for me	.028	.742
Q23_5 I believe that most people will take advantage of you if you let them	-.005	.665
Q23_2 I tend to be cynical and sceptical of others' intentions	-.057	.646

Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization. a. Rotation converged in 4 iterations.

supported a single factor. Interestingly, results from an uncorrelated solution using VARIMAX rotation produced the same factors, but with different loadings. Together factor 1 and factor 2 accounted for 64% of the variance.

The reliabilities of these two scales indicated acceptable alphas (P2T alpha = .85; P2D alpha = .73), while that obtained for a single propensity to trust (P2Tadd) showed an intermediate level (alpha = .80). Factor scores produced from the loadings for re-computed P2T are slightly, though significantly negatively skewed, whereas those for the new P2D were normally distributed.

7.4.4 Regression analysis

7.4.4.1 Preparation of data

Inspection of the distributions for all of the variables indicated significant skew and possible violation of the normality assumption in regression. Examination of the plots of actual vs. predicted values in SPSS during regression revealed a small degree of heteroscedasticity. The Durbin Watson statistic was within the recommended range and one can therefore be confident that data met the independence assumption. There are a number of approaches to deal with heteroscedasticity, and the use of regression with

bootstrapped samples was applied here, rather than transforming scores (see chapter 3 for a discussion of this approach).

7.4.4.2 Relationship between Influence and propensity to trust and confidence

A brief summary of the relationships (Means, standard deviations and correlations for the variables are shown in table 7.5 below showing significant intercorrelations between many of the items.)

In order to examine the hypotheses, OLS regression using MPLUS was used to investigate the causal relationship between recruitment influences and the P2T measures. Propensity variables, P2T and P2D (trust and distrust) as well as three confidence variables, EFS, EFF and EFG (support, financial and general) were added as Peer influence, Organisational influence (INFLORG), reputational influence (INFLREP) and career influence (INFLCAR) items were the dependent variables. Age was included in the analysis predictor because there were significant negative correlations with general confidence and INFLCAR.

Simple OLS regression was completed using the bootstrap procedure with 20000 samples being drawn (see table 7.6 below). Fit indexes indicated that the overall model did not fit particularly well as all fit indexes reported by MPLUS failed to meet the recommend cut-off levels (Hu & Bentler, (Hu & Bentler, 1999). However, in regression analysis even small regression coefficients (which are themselves an indication of fitting data to a line) can be meaningful. Therefore, one should probably not reject the output of individual regressions within a model based solely on results from fit indexes when the R^2 is significant, unless there are other reasons (unreliability of measures) to do so.

Table 7.5

Descriptive statistics of stage 1 variables

	N	Mean	SD	1	2	3	4	5	6	7	8	9
1 Social Influence	148	1.90	1.33									
2 Organisational reputation	148	2.99	1.03	.23**								
3 Organisational information	147	2.57	1.10	.23**	.41**							
4 Career aspirations	148	2.91	1.47	.25**	.15	.18*						
5 Social support confidence	144	3.92	0.89	.24**	.14	-.03	.12					
6 Financial confidence	144	3.37	1.22	.01	-.11	-.18*	-.33**	.35**				
7 Overall confidence	144	4.21	0.77	.22**	.11	.04	.41**	.56**	.03			
8 Propensity to trust	143	0.00	0.93	.34**	.06	.19*	.08	.24**	-.10	.25**		
9 Propensity to distrust	143	0.00	0.87	-.08	-.09	-.07	.11	-.05	.02	-.04	-.52**	
10 Age	156	39.5	12.05	-.15	.13	-.01	-.30**	-.06	.09	-.22**	-.06	-.06

Two-tailed tests

* statistically significant at .05 level

** statistically significant at .01 level

Table 7.6

Bootstrap regression model

	R^2	F	df	p	Confidence Intervals			S.E.	Est./S.E.	p (2-tail)
					beta	Lower	Higher			
INFLSOC2 ON										
P2T					.50	.30	.70	.12	4.12	.000**
P2D					.19	-.03	.40	.13	1.44	.15
EFS	.16	4.48	6, 136	.000**	.14	-.16	.42	.17	.80	.42
EFF					.01	-.15	.17	.10	.09	.93
EFG					.13	-.15	.40	.17	.77	.44
AGE					-.01	-.02	.01	.01	-.86	.39
INFLORG ON										
P2T					.22	.02	.43	.13	1.77	.08
P2D					.04	-.16	.23	.12	.37	.72
EFS	.04	1.02	6, 136	.42	.02	-.25	.28	.16	.14	.89
EFF					-.09	-.22	.05	.08	-1.11	.27
EFG					-.07	-.35	.20	.17	-.42	.68
AGE					.00	-.02	.01	.01	-.40	.69
INFLREP ON										
P2T					-.09	-.25	.08	.10	-.91	.36
P2D					-.10	-.22	.05	.08	-1.18	.24
EFS	.09	2.38	6, 136	.03*	.22	.02	.44	.13	1.71	.09
EFF					-.17	-.28	-.06	.07	-2.54	.011*
EFG					.06	-.18	.30	.15	.43	.67
AGE					.02	.01	.03	.01	2.86	.004**
INFLCAR ON										
P2T					.01	-.21	.26	.14	.09	.93
P2D					.26	.08	.44	.11	2.30	.022*
EFS	.34	11.83	6, 136	.000**	.06	-.23	.33	.17	.35	.73
EFF					-.41	-.58	-.26	.10	-4.29	.000**
EFG					.71	.45	.97	.16	4.45	.000**
AGE					-.02	-.04	.00	.01	-2.02	.044*

* Significant at $p < .05$ ** significant at $p < .01$; P2T=Propensity to trust, P2D =propensity to distrust; -EFS - financial confidence; EFF=Social support confidence; EFG=general confidence; Influences: INFLSOC2=Peer influence (2 item measure);INFLORG= Organisational influence ; INFLREP= Reputational influence; INFLCAR = Career influence

The results indicated support for hypothesis 3.1 that applicants' propensity to trust significantly predicted use of information supplied by their peers (INFLSOC2). Propensity to trust was the sole predictor ($\beta = .50, p < .001$), accounting for 16.5% of the variance in INFLSOC2 ($R^2 = .16, F(6,136) = 4.48, p < .001$). This prediction represents a moderate effect ($f^2 = .19$). Some support was found for the relationship between propensity to trust and organisational information with only 4% of the variance

accounted for by the predictors ($R^2 = .04$, $F(6,136) = 1.02$, $p = .42$; n.s.) although confidence limits for this relationship did not include zero (95% CI [.02,.43]) suggesting a significant prediction. The effect size for this prediction was small ($f^2 = .04$) and low in power ($1 - \beta = 0.38$). Organisational reputation seemed to be unaffected by propensity to trust or propensity to distrust, but was significantly predicted by age ($\beta = .02$, $p < .001$) and financial confidence ($\beta = -0.17$, $p < .05$) with 9.5% of the variance in organisational reputation accounted for ($R^2 = .09$, $F(6,136) = 2.38$, $p < 0.05$). The effect size was small ($f^2 = .10$) with a null hypothesis correctly rejected 80% of the time. Social efficacy showed a non-significant effect, although confidence limits did not cross zero suggesting a small effect (95% CI [.02,.44]). Finally, the influence of career goals was found to be predicted by applicants' propensity to distrust, ($\beta = .26$, $p < .05$), their financial efficacy ($\beta = -.41$, $p < .001$) their general level of confidence ($\beta = .71$, $p < .001$) and age ($\beta = -.02$, $p < .05$) which together accounted for 34% of the variance ($R^2 = .34$, $F(6,136) = 11.83$, $p < .001$). This reflects a large effect size ($f^2 = .51$) with an attained power level of .99.

7.5 Discussion

7.5.1 Interpretation of findings

The regression shows that propensity to trust, propensity to distrust, and confidence influence what sources applicants attended to during their decision to apply for a research studentship, but in ways that only partially support the hypotheses. Looking at the relationship between third-party influences and propensity to trust (hypothesis 3.1) the most likely explanation is that those high in propensity to trust are more likely to rely on the information others provide because they are more willing to accept the information these trusted others provide. There was no symmetrical effect for low distrusters. In return, low trusters appear to be less reliant on information provided

by others, preferring to make their own decisions, perhaps because they have a lower tolerance for the vulnerability involved in relying on others for source information in this context. The finding corroborates the importance of third-party information as a recruitment source in particular the use of information from individuals who are closely tied to the applicant (Van Hove & Lievens, 2009). By seeking out information from trusted sources, applicants with high trust propensity may be increasing their confidence in their decision whilst tolerating a higher level of vulnerability to the judgements of others.

The influence of organisational information (hypothesis 3.2) appeared to be unaffected by applicants' propensity to trust, distrust or efficacy although confidence limits suggested a significant small effect for propensity to trust. This may reflect the tendency of applicants to rely on organisational information sources mostly to provide practical details relevant to application process rather than information that offers cues as to the organisation's trustworthiness, or their own perceived vulnerability. One might assume that most applicants look at this, regardless of their efficacy and confidence, and therefore the predictor variables in this study are not strongly related to use or non-use of organisational information.

There was no evidence of differences between those with high or low propensity to trust in predicting reputation contrary to hypothesis 3.2. One would have expected propensity to trust to influence reliance on organisational reputation in a position of uncertainty such as in this context. Corporate reputation may also act as a ready-made proxy form of trust (Bennett & Gabriel, 2001) and may provide confirmation of structural assurances and normality assumptions (as was also highlighted by applicants' responses template analysis in chapter 9). The findings suggest that both high and low trusters appear to be influenced equally by reputation as a benchmark for trustworthiness (for example reputation of competence in providing student support and distance teaching;

benevolence as regards supporting students from disadvantaged backgrounds), perhaps because reputation signals structural assurance regardless of propensity to trust (or distrust).

In contrast, reputational influence was predicted in this study by financial efficacy (partially supporting hypothesis 3.5) and by age. The results indicate that financial confidence predicted the influence of organisational reputation. This could be because those who have less confidence financially require greater reassurance (e.g. via reliance on reputation) before making a decision involving considerable financial investment and risk. Vice versa, those who are more financially secure and have greater levels of confidence in managing a research degree financially are less driven by reputation, needing less external reassurances. The results indicated that older applicants relied more readily on organisational reputation. One possibility is that greater life experience may confirm organisational reputation as a good predictor of organisational consistency and other qualities. Alternatively, as applicants get older the stakes concerning life-changing career-decisions are increased and so organisational reputation may be a means of assessing the level of risks. To conclude, reputation and organisational information were positively correlated with each other ($r=.41, p<.01$), suggesting reputation may in part depend on the quality of organisational information available by confirming or supporting reputational claims. Conversely, quality of information may be judged more highly due to the reputation of the organisation creating it.

Finally, predicting how much applicants were influenced by career progression concerns produced the highest regression coefficients with several variables contributing significantly. First, looking at the confidence variables, high confidence predicts applicants' decision to apply for a research degree, with those who are generally more confident in being able to complete a research degree, also being more focused on

pursuing careers that will be enhanced by this qualification (Ehrhart & Ziegert, 2005; Taylor & Betz, 1983). An increase in perceived financial efficacy was matched by a decrease in career influence. One possibility here is that those who are more confident in managing a research degree financially may also be better able to manage their financial affairs in general, and as a result may already be financially more secure. Having already achieved financial security, career progression to a better paid job may therefore not be as important an issue for them, as for those who are less financially secure.

The finding relating to propensity to distrust and career influence is interesting. For every increase in propensity to distrust, there was a small but significant increase in the influence of career progression on the application decision. An explanation for this may be that those who are high in a propensity to distrust tend to be more sceptical of others' intentions, including that of their current employers. Thus applicants may also be more likely to perceive vulnerabilities in their current job situation and act on their scepticism about their employer by taking control in seeking out career advancement or career change opportunities. The research degree application may thus act as a perceived means to achieving this end. As regards risks in doing a research degree they may well be actively scanning career relevant information to reassure themselves of the credibility of career claims made by the university about research degrees, before exposing themselves to the risks that doing a PhD implies. In contrast applicants low in propensity to distrust may be more likely to assume that organisational information is trustworthy and therefore rely on it to work out their decision to apply.

7.5.2 Limitations

There are four main limitations in this study which are outlined in detail below. These include the way measures were operationalised, the choice of measures, sample characteristics and causal inferences.

7.5.2.1 Combining and splitting of measures

Methodologically, there are some questions about the way in which items were combined to create variables. This decision reflected pragmatic considerations (such as the need to distinguish between recruitment influences). Where possible, variables were used that were high in reliability, however, it is not possible to rule out that coefficients for some predictors may be due to the quality of measurement rather than the underlying phenomenon itself. Nevertheless, separation of variables, especially propensity to trust into two distinct measures supported by factor analytic evidence highlighted the multidimensional nature of propensity to trust (rather than unidimensional level) and the impact of dimensions on other variables. In this study, separate regressions carried out with a uni-dimensional propensity-to-trust variable showed global propensity to be a non-significant predictor for any of the dependent variables, yet a two-dimensional propensity to trust and distrust variable showed significant effects on different dependent variables when these distinct aspects were operationalised. Therefore, this study has highlighted how measurement of propensity to trust may contribute to type 2 error if underlying dimensionality is not considered. As regards propensity to trust, this study has found evidence supporting propensity to trust and propensity to distrust as separate predictors of different forms of influence during early stages of selection.

7.5.2.2 Sample characteristics

This study utilised a relatively small sample in one specific career sector. Results from this sample may therefore be atypical in contrast with other applicant samples. Applicants to research degrees are usually highly invested in the idea of obtaining their postgraduate degree, and some observations made about attraction and strategies for managing uncertainties during recruitment and selection may apply to other career entry

roles that have similarly high stakes. There is an obvious link with this study and recruitment of students to undergraduate studies, although the recruitment and selection process tends to be shorter and there is a greater availability of places in undergraduate recruitment compared with post graduate recruitment. It may be that this study is also particularly relevant to studying applicants to professional training programmes (e.g. medicine, social work, research) or to other career changing job opportunities.

One of the limitations of the above analysis is that effects of demographic variables were not controlled statistically during the analysis. Post Hoc comparison of variables by gender showed that men were slightly more distrusting than women ($t(141)=2.480, p=.014$); Further regression analysis controlling gender as a covariate of propensity to distrust showed that the previously seen result of propensity to distrust predicting career influence disappears for both men and women. On the other hand when gender was added as a predictor to each of the regression paths, the overall pattern of predictors remained the same as per the original analysis except all predictions of reputation become non-significant and financial confidence and age become significant predictors of organisational information. Without further study it is difficult to assess this, but possible explanations are that gender differences contribute to the creation of statistical artefacts. Consequentially some of the findings reported here (e.g. propensity to distrust, organisational information and career information) need to be treated with caution. One possible reason for such differences may be that men and women focus on different things when they look at organisational information, perhaps reflecting differences in financial security, previous salary attainment, family commitments and responsibility. As regards reputational influence, the results from the post hoc regression show propensity to trust with confidence limits that do not include zero, suggesting that

reputation is dependent on applicants' propensity to trust once gender effects have been included in the prediction.

Sample size specifically reduced the ability to control for effects arising from the cross-sectional nature of this study (Ethnicity, study pathways, discipline and type of research degree, e.g. PhD, MRes). This might have revealed further nuances about this applicant cohort and could help understand how subgroup affect attraction and use of source influences and its predictors. One-way ANOVA showed significant differences between ethnic groups in financial and general confidence, the extent of social influence in their decision to apply and in the extent of career influence. Looking at these differences suggested that Asian applicants tended to be higher in overall confidence to complete a research degree. Students from non-white backgrounds were also higher in relying on third parties, and black and Asian applicants were higher in their career based influence. There were small non-significant differences in propensity to trust (Asians were highest) and distrust (mixed race were highest).

A problem with post-hoc analysis of ethnicity is that differences may be traceable to low sample size for some groups (e.g. mixed ethnicity) and that applicants from ethnic minority backgrounds generally originated overseas. Scores on the third-party influence variable may reflect different behaviours in different groups; for example overseas applicants may use word-of-mouth in preparing for study abroad, addressing their fears by seeking specific support from family and friends (Brown & Aktas, 2011). Furthermore, other cultural differences, for example presence of strong family networks may influence applicants' decision-making, which this study has not been designed to tap. Considering the wider context of career decision-making in graduate students, one cannot rule out that differences in what sources influenced some applicants in their decision to apply were in part reflections of their experience of a racialized discriminatory labour market

(Kirton, 2009). Particularly, there may be a perception that improving one's career helps to overcome obstacles to career progression imposed by economics, discrimination, and career based influences that become more salient for Asian and black applicants who have previously experienced or anticipate greater levels of discrimination.

7.5.2.3 Causal inference

As applicants were asked how much each influence contributed to their decision after they had completed their application, their perceptions are retrospective. Communication with the organisation after submitting an application, may retrospectively affect participants' views of their influences and their confidence. Related to this is that regression can assume a particular causal model in which influence source was treated as a dependent variable. This might imply causal assumptions which should be considered critically. One example is the causal relationship between source influence and confidence. Here confidence may be a function of reputation (feeling more confident as a result of having applied to a reputable organisation) or career influence (feeling more financially confident about embarking on a research degree, as a result of having considered information about career opportunities following a PhD). Since the study was operationalized at the end of the application stage such causal effects cannot be ruled out but nevertheless predictions in the directions reported in this study are meaningful.

In order to overcome these limitations in an ideal scenario measures could be deployed in the order in which they are causally the most plausible. In this present survey confidence was measured at the same time as source influences and propensity to trust/distrust. As a result, one would conclude that the model presented here is only one of a number that could be tested. Notwithstanding the lack of conclusive evidence, the exploration of the data in this study has highlighted possible pathways and raised new research questions that require further examination in future research. Further research

would be needed to sample participants during a recruitment study and ensure that data points occur at the right moments so as to avoid contamination of variables through the differential effects of recruitment stages (Uggerslev et al., 2012).

7.6 Summary

Stage 1 of this longitudinal multi-stage study highlights the role of propensity to trust, propensity to distrust and confidence as potential variables influencing attraction to study for a postgraduate research degree. Further research is needed to replicate and confirm whether such findings generalise across other contexts, but despite some limitations in sample size, and measurement methodology, this study has found evidence in an area that has so far not received a great deal of attention in research. Looking at differences between men and women is an area that may also require further attention, particularly in relation to propensity to distrust and previous findings showing such differences (for example, Miller & Mitamura 2003). Separation of propensity to trust into two distinct dimensions challenges previous notions of measuring this construct, and suggests they have distinct effects which require further exploration in subsequent research.

The next chapter will now look at stage 2 of the recruitment and selection process, exploring how perceptions of trustworthiness and justice operate within this context.

Chapter 8 - Moderated mediation of selection justice effects via organizational trustworthiness

8.1 Introduction

This chapter presents findings from stage 2 of the longitudinal tracking study introduced in the previous chapter and outlined in chapter 3. As was already discussed in chapter 2, recruitment and selection processes possess a number of attributes that shape the experience and reaction of applicants. Organisational trustworthiness perceptions and propensity to trust are regarded as important during selection processes in influencing applicants' decisions to accept job offers and other outcomes (Kausel & Slaughter, 2011; Klotz et al., 2013; Searle & Billsberry, 2011). However, there has been little attention given to assessing the influences of trust and justice within a selection context (as proposed by Celani et al., 2008). In this chapter the relationship between perceived selection justice, trustworthiness perceptions, propensity to trust and selection outcome variables will be examined to continue to address the research question of what role trust plays during selection (cf. chapter 1).

The theoretical linkage of trust with selection and recruitment, as well as with justice has already been explored in detail earlier in this thesis (e.g. chapter 2). Here evidence from stage 2 of the applicant study outlined in chapter 7 will be discussed, in order to explore how trust and justice operate in recruitment and selection. Following a brief introduction, this chapter looks at trust as mediator and moderator, followed by the relevant hypotheses appropriate for mediation and moderated mediation analysis. The chapter then summarises the methods, including variables and scales selected, participants, and the procedure in as much as it differs from stage 1 of this longitudinal

study. Results are then presented, followed by a discussion of the interpretations, the study's limitations and the conclusion for the chapter.

8.2 Hypotheses

As discussed in chapter 2, the role of trust as antecedent, mediator and moderator in its relationships with justice and other organisational variables was discussed. Although there is evidence supporting both mediating and moderating roles for trust, it is difficult to know when, in what contexts and under what conditions trust and its antecedent processes are involved. For example, in a selection context is organisational trustworthiness an antecedent of justice or an outcome? Sequence and direction of causal relationships between such variables is not always clear-cut, depending on the specific context to which they are applied.

There has been little research on trust and justice in selection. In chapter 2, predictions and hypotheses emerged from a consideration of evidence for variable relationships in the wider literature on justice in selection trust and justice relationships, as well as considerations for available theory in recruitment and selection trust (e.g. Celani et al., 2008; Kausel & Slaughter, 2011; Klotz et al., 2013; Searle & Billsberry, 2011). Finally, approaches to mediation and moderation (Baron & Kenny, 1986; Hayes, 2009; Preacher & Hayes, 2004) entail testing of specific hypotheses that define the mediational and moderator paths. These hypotheses are presented next.

8.2.1 A mediation model of justice, trustworthiness and selection outcomes

Figure 8.1 provides an overview of the model tested. Following this further rationale is presented in this section.

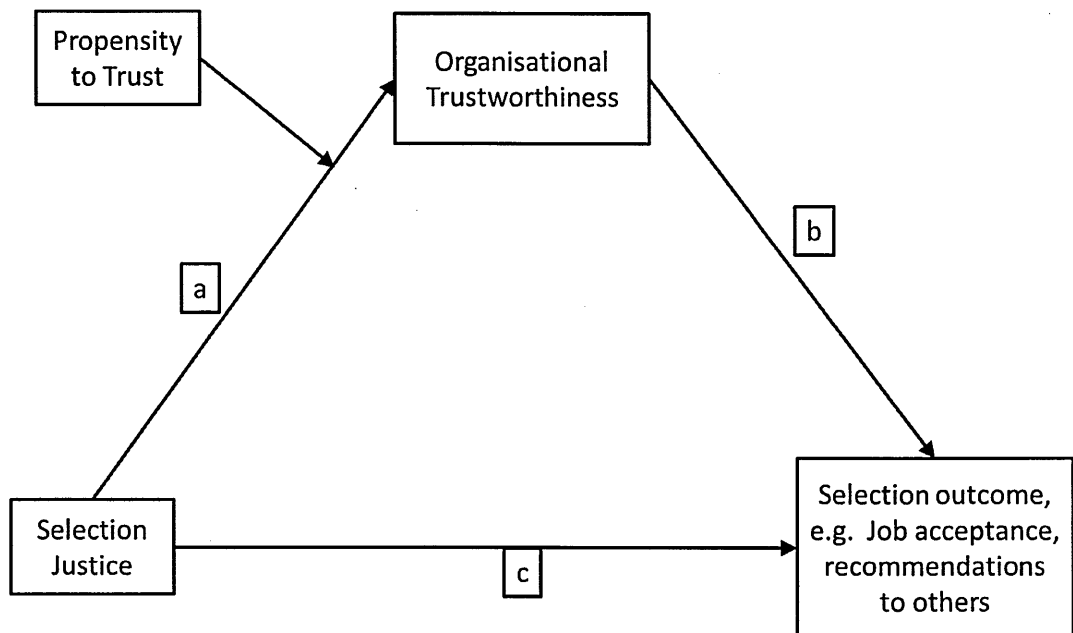


Figure 8.1 Moderated mediation model of justice effects on selection outcomes

As discussed in chapter 2 (section 2.3.3.1) justice has long been regarded as an antecedent of selection outcomes (Anderson, 2011; Hausknecht et al., 2004; Maertz et al., 2004, Truxillo et al., 2002), including applicant reactions and intentions. Therefore the first hypothesis is as follows:

H1.1 Selection justice significantly predicts word-of-mouth recommendation, job acceptance, and future work intention. (Direct effect, Path c)

Applying existing theory to the selection context, applicants' experience of justice during selection should increase their perception that an employer is trustworthy by reducing uncertainty about expected employment conditions and vulnerabilities (Walker et al., 2013). Applicants may decide to accept job offers based on the perception of an employer as trustworthy (Klotz et al., 2013). One would therefore expect that the more trustworthy an employer appears, the more favourable the intention of the applicant to accept a job offer, but also to recommend the organisation to others. The above variable relationships position organisational trustworthiness as a mediator of the justice-

outcome relationship and leads to the following two hypotheses describing the a-path and b-path of the model (see diagram 8.1):

H1.2 Selection justice significantly predicts organisational trustworthiness (Path a).

H1.3 Organisational trustworthiness is significantly related to word-of-mouth recommendation, job acceptance, and future work acceptance (Path b).

For mediation to be established Kenny & Baron specify the condition that the c path becomes non-significant when the indirect effect is statistically controlled. In this way path c, is typically referred to as Path c'. Testing of the significance of c' relates to hypothesis 2 in chapter 2, and hence:

H2. 1 The path between selection justice and DVs (Path c') will become non-significant when organisational trustworthiness (e.g. Path a + b) is taken into account. (Full mediation hypothesis in Kenny & Baron's approach)

Recent extensions to mediation analysis suggest that rather than testing the significance of the c-path, the indirect path (e.g. a+b) should be tested instead. When this is significant a model may be deemed mediated even if the c path is not significant. Hence:

H2.2 There will be a significant indirect path between selection justice trust and the DVs (word-of-mouth recommendation, job acceptance, and future work acceptance)

8.2.2 Mediated moderation of the justice trustworthiness path

Propensity to trust has previously been identified as a moderator of trustworthiness during recruitment (Kausel & Slaughter, 2011) and evidence regarding justice suggests that propensity to trust acts as a moderator in some justice situations (Colquitt et al., 2006). In trust research propensity to trust is viewed as an antecedent (e.g. Mayer, et al., 1996) but given the evidence of its effect as a moderator one

possibility is that it governs the relationship between justice and trustworthiness perceptions rather than preceding either of these variables. In a mediated situation as is hypothesised here, propensity to trust may therefore act as a moderator.

Moderation occurs when different levels of a variable impact the relationship between two other variables. In this context propensity to trust could be an influence on how the relationship between justice and organisational trustworthiness unfolds. For example, those with low propensity to trust may require more signal to indicate that an employer is trustworthy. Justice in this case should provide such a signal (cf. Walker et al., 2013, p. 1328). In contrast, high trusting individuals may be more likely to assume others' trustworthiness and therefore require less demonstration through justice that an employer is trustworthy.

A mediated moderation hypotheses has previously not been investigated in this context although applications of theory suggest a rationale for it. Therefore the final hypothesis in this study is as follows:

H3.1 The indirect path from justice to outcome variables via organisational trust is dependent on the level of propensity to trust/distrust.

8.3 Method

The survey items can be found in Appendix 1

8.3.1 Variables and Scales

In the following the variables used in the study are described and basic information (factor structure and reliability as they apply in this study are provided)

Selection justice was adapted from the selection procedural justice scale (Bauer et al., 2001). Items were selected for their relevance to the 2nd stage (post interview) of the selection process. Factor analysis (using principal axis factoring and oblimin rotation)

failed to replicate factor structure as reported by Bauer et al. Parallel analysis indicated that three factors should be extracted, but examination of the items loading onto each of these factors did not make interpretative sense. Therefore, a single selection justice score was calculated for the purpose of further analysis, with a high score on this scale indicating a high level of perceived selection justice. Cronbach alpha for the 18-item scale was very high (alpha= .95). A five-point Likert response scale (1 - Strongly disagree to 5- Strongly agree) was used to score the items.

Organisational trustworthiness was measured using an adaptation of a 10-item scale used by Searle, Den Hartog, et al. (2011). Parallel analysis (MAP and revised MAP) revealed that only one factor was found. Factor analysis using principal axis estimation and oblimin rotation failed to replicate the two-factor structure (ability and benevolence/integrity) as reported previously. A single factor organisational trustworthiness variable was therefore created by averaging item scores, to be used in further analysis. One item concerned with external stakeholder exploitation seemed less relevant to the concerns of PhD applicants and was removed from scoring, because it suppressed the Cronbach alpha of the full scale. The final alpha of the 9-item scale was .93. Items were scored using a five point Likert agreement scale.

Propensity to trust (P2T) and *Propensity to distrust* (P2D) data were collected in stage 1 of the research (see chapter 7). These scales are based on the Costa & McCrae trustworthiness scale and as shown in chapter 7, factor analysis of this scale showed support for separate propensity to trust and propensity to distrust scales (section 7.4.3). For the purposes of the study reported in this chapter, factor scores were used. Cronbach alpha for both propensity to trust and propensity to distrust were acceptable for theoretical research (P2T alpha = .85; P2D alpha = .73). For the respective propensity measures, a high score on the Propensity-to-trust measure indicates a high level of a

tendency to trust. A high score on the propensity of distrust indicates a high level of a tendency to be distrusting. As propensity to trust (and distrust) is an antecedent to organisational trustworthiness and has been found in previous research to moderate justice effects, both scales were employed as potential moderator variables. A seven-point Likert agreement scale was used.

Outcome variables were operationalized by using a five-point Likert agreement scales. Two items referred to the likelihood that applicants would be recommending the organisation to others. These were grouped as a single variable expressing word-of-mouth intention (WOM). Further, applicants were asked how likely they would be to pursue a research degree if offered one (*Job acceptance intention AC*) and how likely they would be to consider working for the organisation in future (*future work intention, FW*). Finally a binary acceptance variable (*Job acceptance binary, ACC_Y_N*) was used to determine whether or not applicants would accept an offer or not. The outcome variables listed here were treated as dependent variables throughout the following analyses.

Additional information on *age, gender* and *ethnicity* was collected to control for possible demographic effects.

8.3.2 Sample

Of the 157 applicants from stage 1, 43 participants also completed stage 2 and provided usable data for further analysis. There was a broadly equal percentage of women (N=21) and men (N=22) and thus no evidence that men or women were more likely to participate at stage 2. The average age in this sample was 40.5 with a median age of 41.5. There were no differences between men and women in age although men were slightly older and more dispersed at the higher end of the distribution. 65% of applicants had been Open University students in the past. 71% of participants were white, 18% were

black and the remainder (11%) were distributed across the remaining three ethnic categories. 71% of applicants were employed, 11% were in full time education with the remainder, retired (3%), unemployed (3%), self-employed (3%), on long term sick leave (2%) or of unspecified employment status (7%). The vast majority of applicants (72%) applied to register for a PhD. Similar to stage 1 the remainder had applied for places on an EdD (21%), masters in research methods (5%) or virtual MPhil (2%).

Compared with those involved in stage 1, the stage 2 sample indicated significantly lower scores on propensity to trust, ($t(87.4)=2.629, p=.010$; variance corrected) but not on propensity to distrust ($t(141)= -.908, p=.366$). There were no differences in age ($t(141) =-1.012, p=.313$), or confidence ($t(141)=1.598, p=.112$) between the samples in these two stages. In order to evaluate the bias arising from other variables, correlational checks on all of the IVs and DVs were carried out for gender and age. None of the IVs and DVs was associated significantly with gender, and the correlations between age and all other variables were also non-significant.

8.3.3 Procedure

As previously, participants were contacted via an electronic invitation and asked to complete a survey. The process was managed in exactly the same way as reported in chapter 7.

8.3.4 Ethics

As earlier the Open University ethics procedure was followed (see chapter 7, section 7.2.1.4).

8.4 Analysis

MPLUS was used for the computational aspects of analysis as it has the capability to use different estimation techniques to allow categorical/ordinal variables to be used as

dependent variables in regression, in addition to allowing the inclusion of covariates (e.g. age) in the calculation of paths. The mediation analysis begins by following Kenny & Baron, but adapts this process to take into account recent work on testing for indirect effects (e.g. Hayes, 2009; Preacher & Hayes, 2008; Preacher, Rucker & Hayes, 2007) as well as simultaneous testing of multiple mediation paths and moderated mediation all of which are supported in MPLUS.

As many of the variables employed were ordinal and dichotomous, one has the choice of either using logistic or probit regression for estimating coefficients (MacKinnon & Dwyer, 1993; MacKinnon, Lockwood, Brown, Wang, & Hoffman, 2007; Muthén, 2011; VanderWeele & Vansteelandt, 2010). MPLUS calculates both logistic and probit coefficients. A nonparametric bias-corrected bootstrapping procedure is recommended for small samples (Hayes, 2009; Preacher & Hayes, 2004) and therefore in this case, probit coefficients were used as logistic coefficients cannot be produced when bootstrapping is used. In addition to correcting bias arising from small sample size, a further advantage of this approach is that bias-corrected confidence intervals also provide a more powerful alternative to the Sobel test for indirect effects (Hayes, 2009). MPLUS calculates both indirect effect using the Delta method (equivalent to the Sobel test) *and* bias-corrected confidence intervals.

Probit coefficients are scaled differently for each variable thus making comparison between them difficult and p-values and the sign of the coefficient are therefore usually reported. Furthermore, the R^2 measure calculated by MPLUS is McKelvey & Zavoina R^2 which is calculated from the estimated latent variables underlying the observed binary or categorical variables, and as with other measures of pseudo R^2 cannot be interpreted as an OLS R^2 . They are reported in the results section table for some of the pathways for completeness, but are not required for interpretation.

The MPLUS code used was adapted from Preacher (2011) and Preacher et al. (2007).

8.5 Results

8.5.1 Descriptive statistics

Means and standard deviations are shown in table 8.1. Examination of the sample distribution of scores for each variable indicated relatively normal distribution for the IVs and mediators, although the DVs were not normally distributed with the majority of scores showing a skewed distribution. Inspection of normality statistics indicated significant deviations from normality for the DVs, and the more conservative Shapiro-Wilk statistics both selection justice and trust deviated significantly from the normal distribution.

As can be seen from table 8.1 – the correlations between several variables were significant. These results do not indicate causal relationships, but serve as an initial guide for determining the appropriateness of the approach being used in a mediation analysis. As can be seen from the correlation matrix below, all outcome variables (Word-of-mouth, future working intention and job acceptance intention) were positively and significantly correlated with each other, but unrelated to propensity to trust. Both selection justice and organisational trustworthiness were significantly correlated with outcome intentions. Neither age nor gender was correlated with any of the variables. Propensity to trust did not appear to be correlated with organisational trustworthiness or any outcomes. In contrast propensity to distrust was negatively correlated with organisational trustworthiness and with propensity to trust. Due to these results, a decision was made to omit propensity to trust from this analysis and only include propensity to distrust.

Table 8.1

Means, Standard Deviations and Correlations (Spearman)

	N	M	SD	1	2	3	4	5	6	7	8	9
1. Selection justice	53	0.62	0.77									
2. Organisational trustworthiness	43	0.96	0.68	.58**								
3. Propensity to trust	52	-0.28	1.04	.05	.24							
4. Propensity to distrust	52	0.09	0.80	-.24	-.33*	-.49**						
5. Accept offer intention (JA)	43	1.07	1.24	.32*	.54**	.02	.00					
6. Future working intention (FW)	43	0.79	1.28	.39**	.49**	.12	.07	.44**				
7. Word of mouth intention (WOM)	43	1.81	1.92	.66**	.70**	.12	-.10	.47**	.53**			
8. Accept offer (YES/NO)	43	0.84	0.37	.42**	.36*	-.04	.12	.74**	.37*	.49**		
9. Age	53	40.89	11.48	-.27	.06	.08	.02	.14	-.23	-.03	.00	
10. Gender	53	0.09	1.01	.14	.03	-.04	.22	.09	.06	.03	.07	.10

* p<.05, ** p<.01 Following Lomax (2007, p. 191), Pearson and biserial correlation coefficient should be used for the mix of dichotomous, ordinal and interval/ratio variables.

The binary acceptance variable 'Accept offer (YES/NO)' appears to be mostly redundant showing a very high correlation with job acceptance (JA) ($r=.74$). However, as the latent variable correlation between the binary acceptance variable and JA was practically 1.00 ($r=.925$) this further confirmed variable redundancy and the binary variable was therefore removed, resolving an additional problem with a non-positive definite in the covariance matrix when this variable was used as a DV in the mediation analysis.

8.5.2 Mediation analysis

The account below refers to paths in the mediation model, as shown in figure 8.4, below, where $c_{1,2,3}$ represent the three paths between the IV and DVs, a_1 represents the path between the IV and the mediator, and b_1, b_2 and b_3 are the three paths between the mediator and the DVs when the IV is kept constant. The procedure adopted below follows the causal steps suggested by Baron & Kenny (1984), except for estimations of indirect paths ($a_1+b_{1,2,3}$), where it follows Hayes (2009). A summary of all the steps involved in this analysis is given in table 8.2 below.

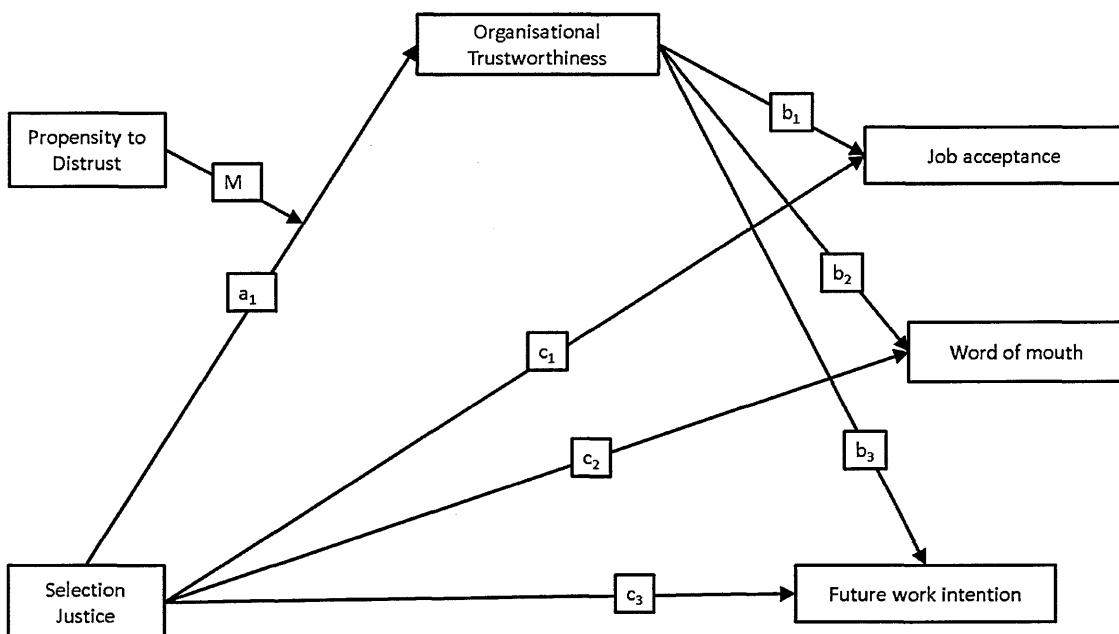


Figure 8.2 Moderated mediation model, showing all path and variable names

Table 8.2

Mediation analysis summary table

Mediation step	Path	Predictors	R ²	Coefficient	STDXY coefficient	S.E	z	p	lower 5% CI	Upper 5% CI
Step 1	c ₁ -selection justice - FW	Justice		.55	.41	.23	2.36	.02*	.18	.89
	c ₂ -selection justice - WOM	Justice		1.13	.68	.41	2.73	.01*	.55	1.68
	c ₃ -selection justice - JA	Justice		.43	.33	.24	1.80	.07	-.01	.72
Step 2	a _{1,2,3} -selection justice trust	Justice	.34	.48	.58	.11	4.21	.00*	.24	.61
Step 3 & 4	b ₁ -trust FW	Trust		.70	.43	.26	2.68	.007**	.18	1.05
	c'-selection justice FW	Justice		.22	.16	.28	.77	.44	-.18	.74
	b ₁ -trust WOM	Trust		1.01	.50	.31	3.27	.001**	.48	1.51
	c'-selection justice WOM	Justice		.64	.38	.45	1.44	.15	.13	1.42
	b ₁ -trust JA	Trust		.96	.61	.29	3.30	.001**	.30	1.35
	c' selection justice JA	Justice		-.04	-.03	.26	-.14	.89	-.33	.58
Indirect effects	Justice - Trust - FW		.29	.34	.25	.17	1.97	.05*	-.02	.54
	Justice - Trust - WOM		.62	.49	.29	.20	2.40	.02*	.17	.77
	Justice - Trust - JA		.34	.46	.36	.19	2.48	.01*	.04	.68

Results from bootstrapped regression analysis for each step in Baron & Kenny (1986) including indirect effects and bootstrapped confidence intervals. * represents pseudo r square. * p<.05; ** p<.01

In *Step 1*, testing hypothesis 1.1 above, one checks whether the independent variable has a significant effect on the dependent variable (paths c_{1-3}). Simple regression indicated that selection justice significantly predicted *future work intention* (probit=.41, $z=2.36$, $p<.05$) and *word-of-mouth likelihood* (probit=.68, $z=2.61$, $p<.05$), but just failed to predict *job acceptance* (probit =.33, $z=1.80$, $p=.07$). All relationships were in the predicted positive direction confirming hypothesis 1.1 for two of the three paths.

Step 2 tests hypothesis H1.2 and checks the relationship between the IV and the mediator. Since this is the same for all outcomes in the mediation, only one relationship is tested. Selection justice and organisational trustworthiness are both continuous variables and are treated by MPLUS as in a standard OLS regression. The regression showed that selection justice significantly predicted organisational trustworthiness ($\beta=.58$, $z=4.21$, $p<.005$), thus satisfying the requirement of a significant IV- mediator relationship (path a).

In *Step 3* (hypothesis H1.3) one checks the paths between the mediator and the dependent variables while holding the Independent variable constant. In this analysis MPLUS was used to check step 3 and step 4 simultaneously. The analysis confirmed that the mediator paths (b_{1-3}) were significant with organisational trustworthiness predicting FW (probit=.43, $z=2.68$, $p<.01$), WOM (probit= .50, $z=3.27$, $p<.005$) and JA (probit=.61, $z=3.30$, $p<.005$). *Step 4* examines the paths between the independent variable and the three dependent variables, while holding the mediator constant. In this analysis selection justice was not found to have a significant effect on any of the DVs (Word-of-mouth intention, future working intention and job acceptance intention) when controlling for the effect of organisational trustworthiness. Under Baron & Kenny's causal steps approach, this would suggest full mediation for two of the mediation models, word-of-mouth and future work intention (both significant at $p<.05$), since the relationship

between justice and job acceptance was not significant in step 1, job acceptance cannot be tested using the classic Baron and Kenny method.

Finally, testing the indirect effects using the delta method (equivalent to using a Sobel test) and confidence limits showed significant indirect effects for two pathways. Both the direct effect and the indirect effects predicting word-of-mouth and job acceptance were significant, indicating mediation. The indirect effect for word-of-mouth showed a significant Sobel statistic (probit=.29, $z=2.40$, $p<.05$) and confidence limits that did not include zero (Justice - Trust – Word-of-mouth: 95% CI [.17 .77]). The results show that as applicants' justice increases, their perception of organisational trust increases which leads to an increased intention to recommend the organisation to others. The indirect effect of job acceptance (justice-trust -job acceptance) was significant for both the Sobel test and confidence limits (probit=.36, $z=2.48$, $p<.05$; 95% CI [.04 .68]), although as shown earlier the direct effect from the IV to the DV was found to be insignificant in step 1. The results suggest that organisational trust increases with perception of justice and amplifies applicants' intention to accept job offers.

8.5.3 Moderated mediation effects

In order to test whether the mediated relationship between justice and outcomes via organisational trustworthiness was moderated, a moderated mediation analysis was performed using Preacher et al.'s conditional indirect effect model 2 (Preacher et al. (2007)). This approach utilises an interaction term which is entered into the regressions used for estimating the effects for each dependent variable (stage 3 & 4 of the process). However, rather than testing the significance of the interaction effect, as one would do in ordinary moderation, moderated mediation tests the effect of different conditions of the moderator on the indirect path. This effect is calculated for conditional sample points of the moderator variable (Preacher et al., 2007, p. 197). In the present study the

moderator, propensity to distrust, is a continuous variable and sample points were created across the range of the variable and indirect coefficients, p-levels and z-scores plotted against 'conditions' in the moderator.

Reassessing the relationship between the mediator and the DVs (Baron & Kenny step 3), when the moderator path was added confirmed that organisational trustworthiness remained a significant predictor for all three dependent variables (future work intention, job acceptance and word-of-mouth) and none of the step three/four regressions showed significant effects for justice or the justice/propensity to distrust interaction. Plotting the p-values for indirect effects against sample points (conditions) in propensity to distrust shows that the indirect effects for all outcome variables are stronger when applicants are less distrustful. Thus, when applicants are more distrustful, the mediated relationship between justice, organisational trustworthiness and the outcome variables becomes insignificant as shown in figure 8.3 below.

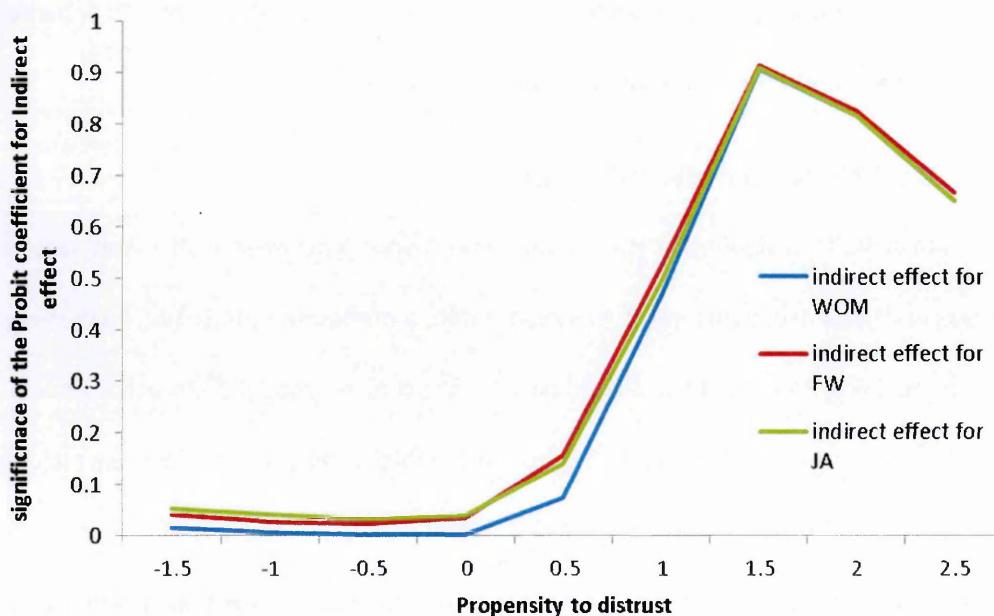


Figure 8.3 p-values for testing significance of probit coefficients for three conditional indirect effects (WOM FW and JA) at different levels of propensity to distrust

8.6 Discussion

8.6.1 Interpretation of findings

The results indicate significant relationships between justice, organisational trustworthiness and propensity to trust to influence selection outcome intentions. These relationships were modelled using mediation and moderated mediation analysis. A summary of which null hypotheses were rejected and confirmed is given in the table 8.3.

Table 8.3

Summary table of hypotheses

<i>Hypothesis</i>		<i>Reject H0</i>	<i>Confirm H0</i>
H1.1 Selection justice significantly predicts word-of-mouth recommendation, job acceptance, and future work intention. (direct effect, c-path)	WOM	x	
	FW	x	
	JA		x
H1.2 Selection justice significantly predicts organisational trustworthiness (a -path)		x	
H1.3 Organisational trustworthiness is significantly and positively related to word-of-mouth recommendation, job acceptance, and future work acceptance. (b bath)	WOM	x	
	FW	x	
	JA	x	
H2. 1 The path between selection justice and DVs (c-path) will become non-significant when organisational trustworthiness (e.g. paths a + b) is taken into account.	WOM	x	
	FW	x	
	JA	x	
H2.2 There will be a significant indirect effect from Selection justice to dependent outcome variables via organisational trust	WOM	x	
	FW		x
	JA	x	
H3.1 The indirect path from justice to outcome variables via organisational trust is dependent on the level of propensity to trust/distrust.	WOM	x	
	FW	x	
	JA	x	

8.6.1.1 Mediation

First, mediation analysis has found support for full mediation of one of the hypothesised paths, namely between justice, trustworthiness and word-of-mouth intention. The analysis supports a significant indirect effect between justice, organisational trustworthiness and word-of-mouth. The analysis also supports a

significant indirect effect between selection justice, organisational trustworthiness and job acceptance intention, but this effect is not fully mediated in the Kenny & Baron sense. Finally there was support for mediation of the justice-trustworthiness-future work path, but testing of the indirect path as is recommended, does not support this beyond the Kenny & Baron approach.

In line with signalling theory (Spence, 1973) findings suggest that justice experiences during recruitment and selection appear to provide cues about the trustworthiness of an organisation. In this study the role of organisational trustworthiness on word-of-mouth intention is consistent with some of the practical suggestions about recruitment and third-party influence (Van Hove & Lievens, 2009) as well as with findings on the role of trust variables in relation to justice in other contexts (Colquitt et al., 2013). Similarly, the significant indirect effects for job acceptance and organisational trustworthiness also resonate with existing theory, specifically uncertainty reduction (cf. Walker et al., 2013). Trust serves to reduce uncertainty and in this case perceived organisational trustworthiness based on justice appears to provide assurances that lead to behavioural intentions of accepting job offers. This may be further amplified by the fact that applicants in this study are applying for studentships which carry significant risk, including financial, relational and personal risks (Searle & Billsberry, 2011) as well as uncertainty about how they will be treated once they start their studentships (Walker et al., 2013). This is also supported with evidence from the template analysis in chapter 9.

Effects on future work intention were not as well supported. One possible explanation may be that in contrast with word-of-mouth and job acceptance, future work intention is less saliently related to study for a research degree. Applicants' primary concerns during the recruitment stage are likely to be their acceptance into a studentship

and study aspects rather than the distal and longer term possibilities of securing a post-doctoral position at the university. The effects on future work intention only narrowly missed significance and the lack of a robust result may be dependent on differences between applicants in future work salience (Strauss et al., 2012). As the template analysis in chapter 9 also shows, some applicants appear to be more focused on longer term goals than others. As such applicant focus was not controlled statistically the lack of a significant effect for future work intention may be due to variation between applicants in terms of their focus on established long term career plans. Further investigation into how proximal and distal outcomes, goals and future selves are viewed by applicants may be useful to help understand further why some intentions (e.g. future work intention) appear to be less affected by trust (or justice) than others.

8.6.1.2 Moderated mediation

Interpretations of significant effects and mediation paths should be viewed in the context of the moderation effects observed in this study. Moderator analysis showed that the indirect effects observed in mediation disappeared for those applicants who were higher in propensity to *distrust*. In other words applicants with a high propensity to distrust were less responsive to justice signals, and appear not to readily translate such signals into trustworthiness perceptions. Consequently, high distrusters appear less easily persuaded that an organisation is trustworthy by positive examples of justice; as a result their acceptance and recommendation intentions in comparison with low distrusters are not increasing in response to justice and trustworthiness. High distrusters may be characterised by higher levels of suspicion and caution and there may be a tendency for those with high propensity to distrust to place greater emphasis on aspects that relate to career goals. Some evidence in chapter 7 and in the following chapter suggests that

applicants are drawn to a PhD for instrumental reasons, but it may be those with high propensity to distrust who place greater emphasis on this than on justice.

Previous research indicates propensity to trust as a moderator of the relationship between attraction and organisational trustworthiness, such that those with lower propensity to trust were more influenced by the attractive aspects of an organisation in forming their trustworthiness judgements (Kausel & Slaughter, 2011). Even though different pre-entry variables were used, the present study results are not necessarily inconsistent with this view. An interesting difference between Kausel & Slaughter and this study is the absence (in this study) of a significant correlation between propensity to *trust* (single measure and factored measure) and organisational trustworthiness. Both studies used propensity-to-trust measures from the big five model (NEO and IPIP) and the difference in the findings may therefore reflect differences in the populations used, rather than differences in the methods employed (e.g. in Kausel et al. these were job seekers, not research degree students)

8.6.2 Limitations

There are three main limitations with this study, sample size, generalizability and causal inference. These are discussed next.

8.6.2.1 Sample size

In order to address the less than adequate sample size for regression (N=43) bootstrapping was employed. Simulation studies have shown that it is possible for mediation analysis to achieve high levels of power ($\beta \geq .80$) with quite small sample sizes, when bootstrapping is used (Fritz & MacKinnon, 2007). Thus, sample size may be less of an issue as far as power is concerned. Looking at the variable distributions, there are several that appear to be skewed. A simple bootstrap used on heavily skewed data is

argued to be more effective than log transforms for 'normalising' data distributions (Russell & Dean, 2000) and some might suggest that using a categorical mediation analysis could produce sensible results with data being treated as interval or ratio, even if strongly non-normally distributed samples are used (Russell & Dean, 2000).

In this study the number of bootstraps requested for each analysis was 5000. However, in several analyses the number of bootstraps completed was markedly less than those requested. This was caused by some samples having a cell count of 0 for one or more of the categories in the DV. Inspecting the bootstrap diagnostic (Tech9 output in MPLUS) the problem is made worse when there are three paths to the DVs estimated at the same time rather than in separate analysis. A recommendation from personal correspondence with Linda and Bengt Muthén suggested that collapsing the categories could be a solution, but this did not reduce the problem and was therefore not implemented in the final analysis. An alternative to this strategy might be to force 5000 bootstraps by increasing the number of bootstraps requested from 5000 to 25000, although it was not clear what degree of distortion would arise from this. Following Linda Muthén's suggestion another alternative would be to use Bayesian estimation without bootstrapping but this prevents analysis of indirect effects in MPLUS version 6.11 which was used in this study. However, for all analyses that were computable with Bayesian estimation (e.g. mediation steps 1-4), results tended to confirm those of the Bootstrapped analyses.

Re-analyses using 25000 bootstraps using both OLS and Bayesian regression methods produce very similar results, although obviously the coefficients and significance levels differ compared with those using fewer bootstraps. The most striking difference of increasing bootstrap samples is that the indirect effect for the 'future working' model reports a significant result when 25000 samples are requested compared with 5000

samples. However, simply choosing to report the findings from the 25000 sample bootstrapped analysis in order to produce confidence intervals not containing zero, would risk producing type 1 error, which given the small sample size would also appear to try to capitalise on chance. Therefore, the results which were reported here in table 8.2 above were those reflecting the initial analysis with 5000 bootstrap samples. The ideal scenario would have been to use Bayesian estimation for the entire analysis. A point for similar future studies would be to avoid such problems by obtaining a large enough sample so that bootstraps do not fail to complete, or to use more up to date software that allows Bayesian estimation for indirect effects.

8.6.2.2 Generalisability

Generalisation based on data analysis for this selection process to other job selection processes may be difficult to justify due to sampling concerns. A further issue concerns the comparability of selection processes and vulnerabilities for research degree students and those found in recruitment contexts for other job categories. Clearly the applicant population was applying to a position which for many would mean significant change in job tasks, financial enumeration, satisfaction and commitments. PhD programmes have been likened to apprenticeships (Frankland, 1999; Park, 2005) and one might consider the similarities between recruitment stages in apprenticeships and those in the present study. However, differences in the complexity of work, the aspirational nature of research degrees (see chapter 9), applicants' age and maturity, the role of research student may imply a great deal more vulnerability than in typical apprenticeships which are targeted mostly at school leavers.

Research degrees require a high level of commitment and have a high chance of failure (e.g. around 25-35%; HEFCE, 2013; Park, 2005). Possible similarities may exist with students from postgraduate training in law and medicine and those applying for training

positions (e.g. Social work, Nursing) all of whom make significant investments in their career by pursuing such training opportunities. However, rather than assuming findings should have to generalise to other populations, a more sensible view may be that insights gained from this study and accompanying analysis can help to explore the relationship between variables in other processes, for example in explaining why in some studies (e.g. Kausel & Slaughter, 2011) propensity to trust rather than propensity to distrust is showing significant moderator effects.

8.6.2.3 Causal inferences

This study was initially envisaged as a longitudinal study exploring cause and effect over time. The variables that were collected in stage 2 of this study (selection justice and trustworthiness) are difficult to disentangle because they were collected at the same time. Instead of being a mediator, organisational trustworthiness may well be an antecedent to selection justice and outcome variables, thus acting as an IV rather than a mediator in the mediation model. Running this alternative model as a post hoc analysis suggested that a significant indirect effect only exists for the trust->justice->word-of-mouth relationship, but not for other outcome variables.

A further possibility is that applicants infer their justice and trustworthiness perceptions based on their acceptance intentions, thus those who intend to accept offers are more likely to align their perception of the employer appearing more trustworthy or just. Previous research (Celani et al., 2008; Colquitt & Rodell, 2011) indicates that justice affects trustworthiness rather than the other way around, although further research could explore this causality in more detail.

A scenario where organisational trustworthiness is a precursor to justice might arise for example as a result of applicants' views of organisational reputation. One way to

overcome the lack of an organisational trustworthiness measure at stage 1 would be to treat the reputation item in the influences scale as a proxy for trustworthiness (see chapter 7 and discussion of Bennett & Gabriel, 2001). In a post hoc analysis, reputational influence (stage 1) was significantly and positively correlated with organisational trustworthiness (stage 2) but not with selection justice (stage 2), suggesting that considerable variance is shared between trustworthiness at stage 1 and stage 2 but not between reputation and justice. However, in future studies separation of reputational trustworthiness at initial entry from trustworthiness at the post interview selection stage would be a useful addition to the design.

8.7 Summary

In this chapter a moderated mediation model examining the effects of justice on recruitment stage outcomes showed the paths between justice and outcome intentions to be mediated via organisational trustworthiness and moderated by propensity to distrust. It is somewhat surprising that propensity to distrust rather than propensity to trust was found to be a significant moderator, but when viewed theoretically, this result highlights the value of adopting a more nuanced approach in the operationalization of propensity to trust, and the merit of separating such variables in studies of recruitment and selection processes. The results show different findings for the three distinct outcome variables. First word-of-mouth implies information in terms of applicants existing social networks and the use of such information in social exchange. Both job acceptance and future working imply anticipation of future exchanges and a willingness to accept these future vulnerabilities arising. This study provides one possible model for how justice, trustworthiness and propensity to distrust lead to the formation of these intentions.

Due to limitations of design this study does not provide clarity on what happens *after* the selection process. For example, the question how intentions are influenced by the later stages of the recruitment process and lead to their respective behavioural expressions is left unanswered. Future work should therefore look at the effect of stages in more detail so as to be able to track the development of behavioural trust over time.

Chapter 9 now revisits both stage 1 and stage 2 of the recruitment and selection process by providing a fresh look at the experiences of applicants through the use of a qualitative rather than quantitative method. This allows the quantitative work to be complemented and triangulated with a view that can provide an insight into some of the unresolved issues stemming from quantitative analysis.

Chapter 9 - A template analysis of recruitment

source and selection impact

9.1 Introduction

The purpose of the present chapter is to examine the longitudinal study by complementing the quantitative work (chapters 7 and 8) with a qualitative perspective to open-ended survey questions. This view reveals further aspects of applicants' motivation (stage 1), and their perceptions of the recruitment and selection process (stage 2). The chapter addresses aspects of the research question not covered by other methods, thus reducing concerns regarding common method bias (Podsakoff et al., 2003) and offering a more person-centric perspective (Weiss & Rupp, 2011). Providing further insight into how and why trust is significant in the recruitment and selection experiences for this particular cohort, this chapter complements the statistically derived view of these applicants' perceptions with a view from a methodologically triangulated position.

The principal research questions here refer to the concerns and contexts of applicants and how these translate into issues of justice and trust already identified in chapters 7 and 8. Considering justice and trust in this context, questions of applicants' vulnerabilities and their management of uncertainty are critical. The recruitment and selection situation, the research degree, as well as applicants' aspirations represent the context for justice and trust. The statistical perspective presented in previous chapters largely bypasses context and so questions that draw on applicants' experience and their understanding of the process they are in, can enrich statistical understandings and help in considering the importance of context within trust contexts and more specifically in recruitment and selection situations.

In the following chapter I describe the use of template analysis technique in this research. A short description of template analysis was provided in the methodology chapter (section 3.4.2.6), together with the general methodological considerations for using this type of analysis. A more detailed account of the process and decision-making that drove coding and analysis is provided here in order to provide a transparent account of the analysis. This is followed by a synoptic account of the main findings and discussions of each selection stage in the light of the templates. The open questions of this research focus on two overarching themes: attraction to the organisation, and selection impact. In stage 1 they concern applicants' attraction to registering for a research degree, their choice of organisation and their motivation based on career, work concerns or other issues, while in stage 2 the focus is on experience and impact of the selection and recruitment up to the interview stage. Links with existing theory and literatures outlined in Chapter 2 will be made as part of this analysis and discussion.

9.2 Method

9.2.1 Template analysis

The purpose of this section is to provide a transparent account of the template analysis process, outlining the decisions that were made during the construction of the relevant templates.

9.2.2 Participants

The same participants who took part in the aforementioned survey (chapter 7 and 8) were involved, focusing on their responses to open questions. The participation rates for each of the questions are given in table 9.1 further below.

Table 9.1

Questions used in template analysis and number of participants

	Item	N
Stage 1	(Survey 1, q9) What attracted you to study for a research degree?	149
Stage 1	(Survey 1, q10) What attracted you in particular to apply for this research degree at the Open university	148
Stage 1	(Survey 1 q13) Briefly tell us about your current work situation if this had any influence on your decision to pursue a PhD. Please comment on your desire to stay with or leave your employer or career and anything else that you see as relevant to your desire to register for a PhD.	107
Stage 2	(Survey 2, q3) What is your overall impression of the interview/selection process	45
Stage 2	(Survey 2, q4) Were there any things in this process that were particularly supportive (positive)	37
Stage 2	(Survey 2, q5) Were there any things that were unhelpful to you in any way? (negative)	35

As discussed in chapter 3 and parts of chapter 5, reasons for non-completion can be varied implying differences between the cohorts completing each survey. In the present case completions follow an attrition pattern which broadly reflects the reduction in the overall applicant pool and the declining number of applicants who could be invited to the survey. Additional factors such as respondent commitment to the organisation are discussed further below in the discussion.

9.3 Data collection

In total 404 comments were made in response to stage 1 open questions, using an average of 27 words per comment. In stage 2 205 comments were made with an average of 17 words per comment. The difference in the average number of words for stage 2 compared with stage 1 is partly attributable to the larger number of single word answers that were given in response to the questions in stage 2

9.4 Template development

9.4.1 Overview of the template development process

Figure 9.1 on the next page provides a graphical overview of the analytic process and template development process. The approach adopted is broadly consistent with the stages typically used in qualitative and template analyses (Braun & Clarke, 2006; King, 2012).

In line with the approach adopted four templates were constructed (see table 9.2). This decision was based on the need to ensure that templates would be coherent based on the respective questions respondents answered.

Table 9.2

Questions and template alignment

Survey Stage	Question	Template
1	(Survey 1 - q9) What attracted you to study for a research degree	Attraction to the organisation
	(Survey 1 - q10) What attracted you in particular to apply for this research degree at the Open university	Attraction to the organisation
	(Survey 1 - q13) Briefly tell us about your current work situation if this influenced your decision to apply.	Work as an influence on attraction
2	(Survey 2 - q3) What is your overall impression of the interview/selection process	Overall impressions of the selection process
	(Survey 2 - q4) Were there any things in this process that were particularly supportive (positive)	Supports and Obstacles in selection
	(Survey 2 - q5) Were there any things that were unhelpful to you in any way? (negative)	Supports and Obstacles in selection

The sections following figure 9.1 (section 9.4.1 – 9.4.6), detail the process of template development with reference to the labelled parts of the diagram in Figure 9.1.

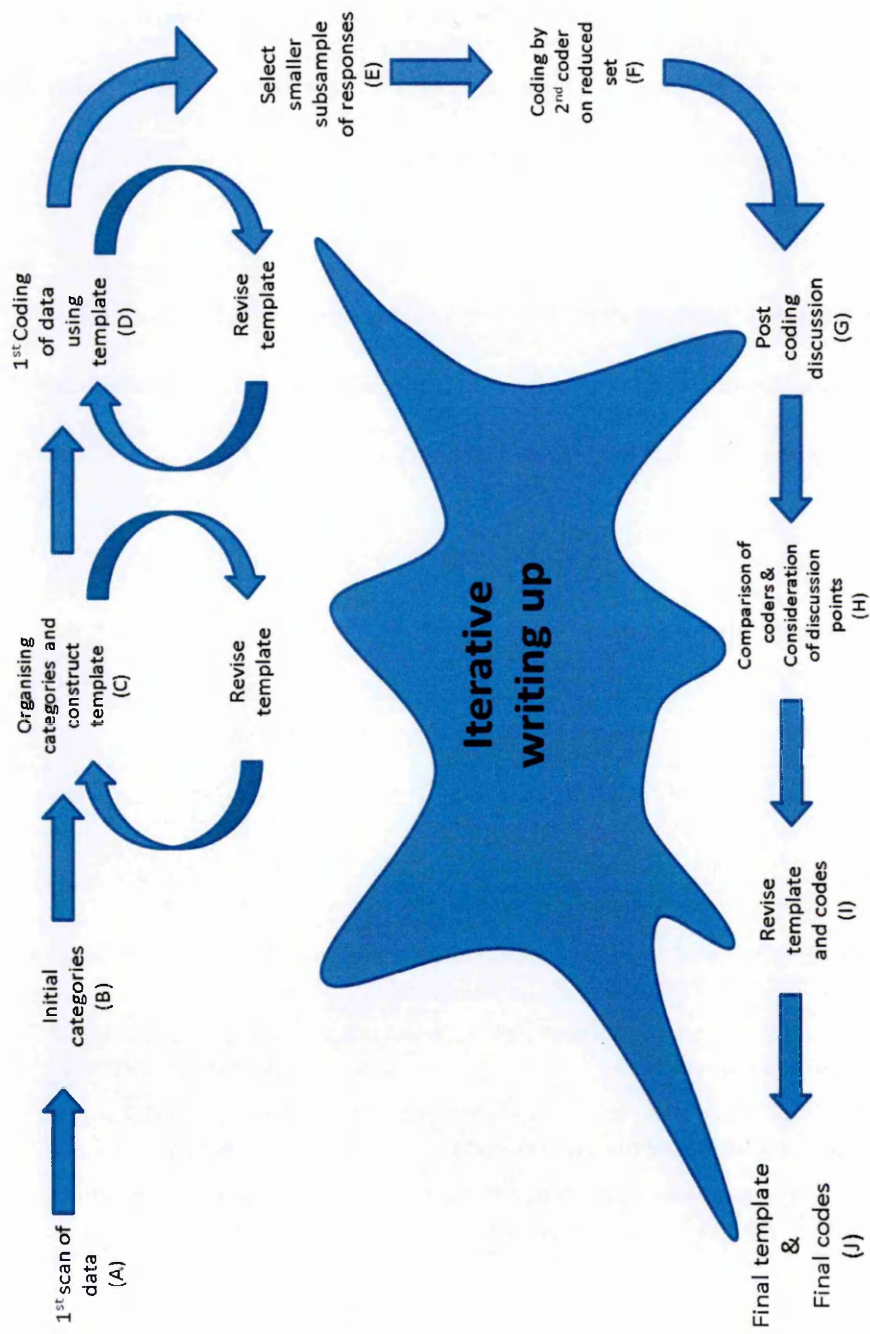


Figure 9.1 Overview of the template analysis for stage 1 and 2 (Letters in parentheses are used subsequently in the narrative discussion of the template analysis process)

9.4.2 Identifying the initial categories and initial templates

Open responses from stage 1 and stage 2 were imported into an Excel spreadsheet with one case per row.

An initial reading of the responses **(A)** aided familiarisation with these data. This allowed early themes to emerge whilst also providing an initial hierarchical organisation of themes **(B)**. It was evident that many responses contained multiple themes and prompted a variety of analytical decisions such as whether to limit the number of allowable themes per response, and to determine more precisely the unit of analysis (e.g. response, sentence or word level). A second pertinent issue in organising the templates was that a single generic template for all of the questions in each stage seemed to be impractical, and so responses were grouped under different templates (as shown in table 9.2). For example, the template 'attraction to the organisation' comprised responses to two questions concerning 'attraction to a PhD' (question 9) and 'attraction to the Open University' (question 10). Responses to each appeared fairly interchangeable, with question 10 used by participants as a way of deepening respondents' earlier response if they had already referred to the Open University in question 9. Through identifying this pattern, a single template was used to capture the responses of participants regarding attraction. A similar principle was applied in stage 2. Questions 4 and 5 in survey 2 concerned supports (positives) and obstacles (negatives) encountered. Significantly, participants typically appeared to observe the polarity of these questions in their responses, with similar themes included in both questions. Thus, rather than creating two separate templates to distinguish between positive and negative experiences, a single template was constructed and coded with a minus sign denoting a negative experience.

9.4.3 Revision of templates during template construction and coding

In addition to these initial categories and themes, revisions to the templates were carried out following each stage of the coding process. These initial categories were organised into hierarchies during initial template construction **(C)**. Although this may suggest that the transition from initial categories to constructing hierarchies was a linear process, groupings of categories and hierarchies seemed to emerge during the 'fitting' of responses to categories. For example, where responses had already been grouped with other categories, the analytic questioning considered whether a response belonged to a category already present, or a sub-category. In some cases a number of grouped categories emerged as new sub-categories of another theme within the template. This is a common iterative outcome of dealing with 'messy' data, with the structure emerging during revision of templates at different stages in the process.

The initial template was then further revised iteratively, drawing on my own familiarity with the data, my understanding of the meanings conveyed by participants, my knowledge and understanding of the process based on my own experience as an applicant, my experience of PhD level work, my work as an academic, and theory relevant to the experiences described by participants (See also chapter 2). I further revised the coding frame during my own coding of data **(D)** during preparation for quality checks **(E)** and during final coding **(I)**.

9.4.4 Quality checks & final revision

Although template analysis is often carried out reflexively, without the use of quantitative measures of quality, here an additional step of inter-coder agreement was used to check the quality of the template **(F)**. This approach does not, however, presume that a single measure of inter-coder agreement could provide a definitive metric for quality. Rather, employing coder agreement was used reflexively as recommended by

King (2012). Coding was done for each template, and a discussion held between the coders in the light of emergent findings; codes were then revised.

Two coders were used for checking the quality of the template **(F)**. Coder 1 refers to myself, and coder 2 was an academic who had recently completed her PhD, and who was employed at the university. She was sent a codebook with instructions and a word document containing the responses to be coded. Please refer to appendix 3.

Both coders used the same sub-sample of responses **(E)** which had been selected from the larger set of responses. In selecting the sub-sample, short responses and those responses that appeared to be very similar were removed. Longer responses were retained, to enable coders to consider more complex statements made by applicants. Coding was conducted in semi-blind fashion, with the coder provided verbal information on the context of the study was (e.g. applications for research degrees) and which stage of the application process the data related to. She was not given information on other empirical results from this study, nor had prior knowledge of the overarching and specific research questions, or the intermediate coding produced during the template construction process. She was aware that my research was in the area of trust in applicants and had conducted some previous research involving trust.

The data concerning agreement are provided in table 9.3 below.

As can be seen, percentage agreement between my original coding and the second coder's was relatively low. The coding frame and the categories employed within it were discussed with the second coder after coding was complete **(G)**. This generated a sense of the appropriateness of the coding frame, helped identify any difficulties in undertaking the coding, such as fatigue, and cognitive load impacting on the coding process, and to elicit any concrete suggestions about how to modify the template.

Table 9.3

Percentage agreement between coders for coding of sub-samples

Template	Coder 1 & Coder 2 agreement
Attraction to the organisation	54.2%
Work influence on attraction	50.3%
Impressions of the selection process	60.1%
Supports and Obstacles in selection	44.9%

Eyeballing the patterns of coding suggested there was greater agreement pertaining to coding for the higher categories. Reflecting on the coding process as a result of this activity resulted in the observations and actions (listed in table 9.4 below).

Table 9.4

Observations from coder quality check

Issue	Action to address the issue
The number of categories in the original templates was too large, and subcategories within the same theme too similar to provide consistent ratings between coders	<ul style="list-style-type: none"> • Collapse and reorganise 'similar' categories, before and after coding. • Simplify and avoid overlaps
Differences in contextualisation of the data between coders, and differences in focus, and immersion within the research process led to different categorization.	<ul style="list-style-type: none"> • Consider discrepancies and adjust template to clarify hierarchies. • Report template analysis at higher hierarchical level where there was greater agreement
Determining what constitutes agreement when coders use multiple codes for individual responses. Issues about the numbers of codes allowed for each response.	<ul style="list-style-type: none"> • Recognition that differences between coders stem from difficulties in counting instances of agreement and disagreement especially when there are multiple codes used in coding a response. • Use agreement data for reflection rather than to arbitrate which categories are the most 'valid'.

This process achieved its aim of challenging the codes used in the template to identify issues with the templates and improving the coherence of the final template revisions. The most important lesson to be drawn from the coding exercise was the need to simplify the coding frame, in a trade-off between specificity and fit. A final revision of the template was made and the original data recoded to reflect the changes in the template.

9.4.5 Writing up

The template analysis was written up iteratively as depicted in figure 9.1. Such iterative processes are common in qualitative psychology (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2008) and the process of writing up cannot easily and artificially be separated from the sense-making that takes place during coding, analysis and write-up stages (Braun & Clarke, 2006). As Wolcott (1994) states:

Associated as it is with meaning, interpretation is well suited to mark the threshold of thinking and writing at which the researcher transcends factual data and cautious analysis and begins to probe what is to be made of them (p. 36).

In the present study, all of the different stages of template analysis contributed to the final write up of this chapter. To illustrate this, early stages focussed on how to conduct the rest of the analysis, including decisions made around quality checking and ensuring rigour and defensibility of the process. At the initial categorisation stage, simply writing down prototype codes forced reflection on previous codes and to seek ways of combining them whilst avoiding proliferation of categories. Later stages provided support to the shaping of the template main headings, to the extent that these headings provided a suitable focus for organising material, not just in the hierarchical template, but also in the narrative that reports it. Writing up during this stage helped to simplify the template

and consider links with other areas and literature in more detail, than was possible during the first readings of the data corpus and development of initial categories.

Consideration of the coding by different coders suggested that despite initial simplification, the templates were still too finely grained, leading to discrepancies in coding between the coders. The issue of template granularity influenced the writing strategy of discussing higher level themes (see section 9.5), and using the detailed coding frame as a skeleton around which to select example quotations. Writing up and selecting quotations forced me to reconsider and review the templates structures as well as rewriting the emerging data analysis so that it provided a coherent account of the themes underlying the data.

9.4.6 Reflexivity

Carrying out a template analysis on research degree recruits whilst completing a research degree creates an interesting interplay between applicants' experience and one's own subjective experience of carrying out a PhD. Conducting this study several years after my own recruitment and selection experience (as an internal staff applicant) provided a foundation for understanding the process not just from a recruitment and selection point of view but also from the point of view of what an applicant is recruited to do. However, this understanding is bounded since I only have experience of research degrees in the Social Sciences faculty and not in other faculties where what is expected and how it is practised may well differ.

Interpreting applicant responses through my own subjective as well as theoretical lenses influenced organisation of templates. On the whole the sentiments that applicants expressed appeared familiar, and there were none that did not make any sense. Understanding of theory in this area had the additional advantage of making further

sense of the process. Where there were discrepancies in my own experience and those reported by applicants, my own reactions of discovering a new facet of attraction or selection impact were surprise and delight. I reflected on the naivety of some applicants being something common to many research degree students (once including myself) who start the process with grand ideas, which in the face of the research process are then modified and reigned in (Potter, 2002). This led to further consideration of hidden applicant vulnerabilities during the research degree recruitment process, particularly those relating to subsequent experiences of negative affect and lack of motivation during the research degree process (Stubb, Pyhältö, & Lonka, 2011).

Reflexivity in this template analysis was not an afterthought but pervaded the sense-making throughout the template construction process, coding, interpretation and write-up. Plausibility in this type of research is achieved when the work engages the reader and achieves an internal logic by...

...detailing each interpretative reflective turn of its makers. This means generating data with the awareness that this process operates in a world of existing alternative representations serving to shape the research product with social, political and critical insight. The final research project resembles a thoughtfully constructed tapestry. Its appreciation will rely upon each needle point and the craft of its makers. If in addition, it is written with eloquence and incorporates reflective accounts, the reader may well consider the research as believable or plausible. (Koch & Harrington, 1998, p. 889).

It is my hope that I have achieved this aim. The next section begins the data analysis and reporting of the template analysis and its interpretations. This section was

written reflexively and integrates both theoretical and subjective positions that emerged in this study.

9.5 Data analysis

In this section each of the templates is discussed separately by stage. The numbers in parentheses given after each quote are used for cross-reference purposes and also indicate the participants' gender and age. The full templates presented here can be found in appendix 3.

9.5.1 Stage 1 - What attracts students to apply for a research degree?

The first question concerned *what attracted students to apply for a research degree?* Figure 9.2 provides a graphical overview of the main themes relating to the attraction template describing applicants' attraction to a research studentship.

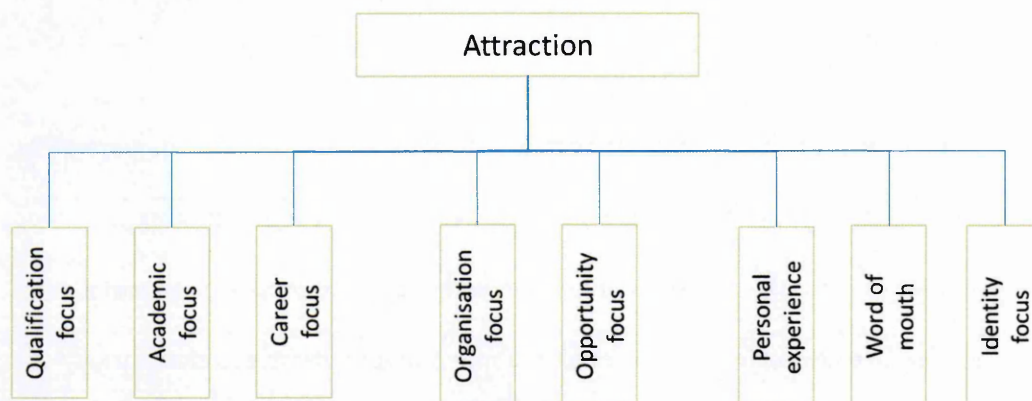


Figure 9.2 Stage 1: Attraction template

9.5.1.1 Qualification focus

It is not surprising that a large number of responses here referred to qualifications, particularly the utility and value of obtaining a research qualification.

Career goals are either implied, or mentioned directly. Examples included:

'Desire to be qualified with a PhD so I can apply for lecture jobs' (1: man, 26) or

‘Wish to pursue formal qualifications after continuing research independently’ (2: man, 29).

Links were apparent between *qualifications focus* and other themes, for example *career focus* or *identity focus*. Another example linking *qualification focus* with other themes is:

‘The degree will provide me with valuable experience in engaging with industry, government, and other education providers and professionals to solve real-world problems’ (3: man, 38).

These links here cut across concerns with careers and engagement with non-academic (real-world) contexts. Responses under this thematic heading describe how attraction for a research studentship involves aspiration to a qualification that provides a route to experience and skills, which is instrumental in the pursuit of other interests.

9.5.1.2 Academic focus

As would be expected in recruitment and selection for research studentships, applicants commented on their attraction to academic aims. Examples of the *academic focus theme* refer to activities such as pursuing studies, learning, or developing knowledge, or its importance to a field, rather than on obtaining qualifications. In contrast with the qualification focus theme, attraction lay in the learning, rather than achieving other goals. Other responses here identified research, for example the specific interests with research groups at the Open University:

‘The research areas of The Design Group. I am very interested in design and innovation and this university touches the subjects I was looking for’ (4: woman, 28)

As can be seen in response 4, academic interests appeared together with reference to the organisation, perhaps suggesting that as attention to intellectual interests deepens, applicants draw on evaluations of their own interest and what they perceive to be available in different organisations, prior to applying for a research studentship. Judging from their responses, some applicants are clearly more attuned to, mindful and aware of their prospective research fields and the organisational affordances in that area than others. In line with social identity and signalling theory (cf. Celani & Singh, 2011), there appears to be a 'fitting' of academic and intellectual interests and preferences with those perceived to be present in the organisation.

9.5.1.3 Career focus

The instrumentality observed in the responses coded under qualification focus surfaces again in the *Career focus* theme. Here respondents referred to particular goals, such as their intention to target particular job roles, but without necessarily referring to a specific qualification, such as a PhD or other research degree. For example:

'Possibility to carve out an academic and consulting career at the Business School'

(5: woman, 50)

Some offered more justification for targeting such job roles and seemed to be moving beyond the idea of a qualification being the enabler into such roles. Views of research degrees as means for improving and developing careers were prevalent; this could assume the shape of improving one's existing career path and prospects or progressing or changing into an alternative career:

'I'm looking to achieve a goal which will hopefully allow me an alternative career path' (6: man, 37)

'to get promotion in my career' (7: woman, 29)

Respondents report the desire to advance, progress, and develop in their careers and to change the characteristics of their jobs, viewing the targeted career as a

'Fulfilling career choice' (8: man, 28).

Some applicants expressed an awareness of the relationship between academic concerns and professional practices within their industries, for example through learning to practice as an evidence-based practitioner, which is a professional development requirement in many fields, such as nursing and social work.

9.5.1.4 Organisation focus

Many of the respondents referred specifically to features of the Open University. The name *Organisation focus* referred to explicit mentions of the Open University as the training provider; even though only question 10 specifically asked about the Open University, it is conceivable many applicants saw the idea of completing a research degree and doing this at the Open University as synonymous, hence the multitude of references to the Open University in question 9. This may be due to prior experience of the Open University although this was not mentioned by many but is apparent from some of the demographic data (chapter 7).

Applicants referred to the prestige and reputation of the Open University in general, as well as specific terms (e.g. study materials, online).

'Having gone through the materials that the Open University prepares, the ease of managing on your own with limited assistance and the ability to immediately apply the knowledge gained. I thought it an excellent opportunity. OU graduates are easily employable for the fact above mentioned' (9: man, 42).

Applicants talked about information sources they used, including university websites, reading blogs and scanning the organisation for relevant characteristics and

opportunities for fulfilling their needs. Rather than being uncritical of the information provided, candidates appear strategic in assembling such information, with students making comparisons to other organisations:

‘Also, I did a thorough study of OUUK website, went through the staff profile and current PhD students’ profile, reviewed other institutions that offer open learning, and concluded that the OUUK is the place for me.’ (10: woman, 36)

The examples above also illustrate the use of organisational information and reputation in ‘persuading’ applicants of their choice of university. Translated into a trust framework this would appear to be an example of how organisational information increases knowledge-based trust in the organisation.

9.5.1.5 Opportunity focus

Applicants appear to be swayed by personal concerns when evaluating their choice of applying for a research degree. Responses here referred to what attracted them to the organisation awarding the degree. For some these considerations included practical aspects such as location, cost and eligibility, and the opportunities afforded by an organisation meeting their needs. Others focused on the nature of the work anticipated, in terms of the content of the study programme and the availability of expertise and supervision. An appropriate title for the emergent theme arising from these concerns is *opportunity focus*, and it broadly includes both perceived opportunities and applicants’ expectations. Several respondents made reference to their own and the Open University’s geographical locations, and the opportunities afforded by distance learning. However, location should not be regarded as implying a simple scenario in which all that is important is commuting distance. For some applicants, particularly those from international contexts, location refers to language (e.g. learning English) and a culture to

which they aspire (e.g. UK and international academic community). The perceived opportunity here entails improving their English, while achieving a qualification, with the flexibility afforded by a distance learning provider.

There are strong links with the organisation theme, with terms such as 'distance learning' appearing to imply the Open University, even when it is not mentioned explicitly. It is debatable whether *opportunity focus* should be a separate theme rather than a sub-theme of *organisation focus*. Perceived opportunities, requirements and expectations were mentioned explicitly with and without further reference to the Open University (for example in responses to question 9) and it therefore makes sense to group these responses under a separate theme. The following quote illustrates how perception of opportunity and its value can be derived from a consideration of one's own personal circumstance *and* availability of organisational supports:

'As well as running my own business I am a carer of a son with muscular dystrophy and i hugely value the flexibility of the programme and the distance learning aspect' (11: woman, 55).

In this quote the opportunity is positioned in terms of the applicant's personal context sharpens the focus on the organisation and the perceived support it creates (e.g. distance learning).

The linking of personal circumstance and organisational affordances raises the question what an opportunity is psychologically. An interesting connection can be made here with previous work on job mobility. Ng, Sorensen, Eby, & Feldman (2007) present a framework for the opportunity structure of job mobility from three theoretical perspectives: structural, individual differences and decisional. Looking at example 11 above, the applicant's mobility has elements of each. For example, the structural aspects

relate to her role as a business owner, and thus her opportunity to study will be dependent in part on the performance of her business within a wider economy and the flexibility of being an owner rather than an employee. Individual differences are evident because her care responsibilities comprise a set of circumstances that limit career opportunities (Crettenden, Wright, & Skinner, 2014). Finally, the decisional level relates to the way in which individuals evaluate their opportunity space, based on personal subjective norms (e.g. care responsibilities), desirability of the decision and readiness for change (in this example, facilitated via the flexibility afforded by the mode of study).

When considering applicants' perceptions of opportunity the evidence from these data and also from the statistical investigation (see also chapter 7) suggest multiple influences, rather than a single source. Although not mentioned explicitly the above and other cases often reflect inherent vulnerabilities (time commitments, balancing care, work and academic responsibilities and uncertainty of investing time and effort in a PhD). The beliefs held by the applicant at this stage appear to reflect the valuing process implicit in trust (e.g. assessing the opportunities in terms of ability, integrity and benevolence of a trustee organisation, against an applicant's known vulnerabilities).

Further investigation using research methods such as interviews should enable more systematic probing of these topic using a systematic framework such as that devised by Ng et al. (2007) to uncover further salient examples of trust in this context.

9.5.1.6 Personal experience

During the early development of the template it was not clear how much the opportunities applicants perceived were linked to those of the university's reputation (e.g. as a provider of distance education), their personal experience of the university, or other information. The theme *personal experience* underwent some revisions to allow

inclusion of personal experiences of the Open University and other universities. When experience of other universities was highlighted, an apparent organisational contrast is evident:

'I have had a positive experience with the OU for both BA and MA. I have had negative experiences with my local universities. I like the professionalism of the OU and I like the way students are treated with respect and not just another number'. (12: woman, 41)

Respect reflects aspects of interpersonal justice (Colquitt, 2001) which in this case is anticipated rather than experienced. A few respondents mentioned their prior study treatment at the Open University (see also quote 12 above). Several of these responses referred to disabilities, life stages, guidance or support at difficult times and the treatment they received, for example:

'I received a lot of support from my Tutors particularly at the time when i gave birth and yet had to sit an exam in two weeks' time' (13: woman, 42).

Obviously, not all applicants with previous Open University study expressed themselves quite so clearly. The small number who did reported the quality of support as a salient feature, helping create the confident expectation that the treatment they will receive during a research degree supports their academic performance. One could argue that this is an example of trust since the expected supports address perceived vulnerabilities relating to academic performance and reflect perceptions of an organisation's trustworthiness (e.g. competence and benevolence).

Other *personal experiences* included working for the university, or another research organisation. This experience seems to be linked to *career progression*, such that some applicants working in a research context need a PhD as a means of progressing or

maintaining their careers, or because their current activities (for example research and development working in industry) stimulated their interest to develop further in their existing field. As will be illustrated later, this theme recurs in responses to the question about work as an influence on their application decisions (section 9.5.2, below). Further examples of items grouped under the *personal experience* theme mostly relate to what was studied before (e.g. MA or undergraduate).

9.5.1.7 Identity focus

Committing to a studentship is a personal investment, often intrinsically rewarding or satisfying at a personal level, regardless of the career or other gains that may be achieved. A cluster of responses referred to such personal elements as the reasons for doing a research degree and this emerged as a theme which I entitled *identity focus*. In most of the responses applicants related the research degree to an aspect of self. For example:

‘A doctoral study perfectly answers my interests and my way of thinking’ (14: man, 29),

or

‘I’m particularly driven by finding out how things work on a fundamental level, what will be possible tomorrow and how to arrive there’ (15: man, 29)

Such statements occasionally linked to other themes (e.g. academic focus), but clearly expressed a sentiment an applicant had about themselves (about their roles, status or intellect), or expressed a value proposition (e.g. respect earned through achievements) related to the applicant’s self, for example:

‘There is an inherent respect for a person who undertakes and completes a rigorous course of study from a well-respected institution like yours’ (16: man, 38).

Other responses reflected notions of personal aspiration and challenge, the desire to improve oneself as a person and completing a personal journey, e.g.

‘the goal of making myself a better person’(17: man, 38).

In coding responses an overlap between this theme and those of both academic and career focus was evident. In trying to reduce such overlaps, some revisions were made to the original template and the *identity focus* sub-themes were simplified from fifteen to eight. Responses coded under the identity focus theme consistently referred to the applicant’s self or expressed a personal belief regarding the value of study and development, life style and achievement/status. Responses in this theme related strongly to theoretical approaches on attraction in particular focussing on social identity (Herriot, 2004), implying processes of self-categorisation, status and fitting of self (Billsberry, 2007) to organisational and career images (Gatewood et al., 1993; Lievens et al., 2007).

9.5.1.8 Third party influence

Word-of-mouth and third-party influence have already been highlighted earlier as important variables in recruitment and selection which involve trust (discussed in chapter 2, 7 and 8). In addition to direct experience of the organisation, applicants identified information gained from third parties as attractors.

‘Some of my friends are currently studying at Open University they are very happy and satisfied, so they also suggest me to join OU.’ (18: man, 38)

‘Secondly, my tutor and a friend of mine who is studying for the PhD now at the OU also encouraged me to apply for the PhD there.’ (19: woman, 28)

‘Colleague highly rated her PhD studies at the OU and actively encouraged me to apply for a PhD in my specialist area at the OU.’ (20: woman, 60)

Responses indicated that applicants received information and encouragement from more than one source. This leads to consideration of applicants' strategies for evaluating third-party information from within their social networks. Previous research has shown that the strength of the social tie between a recipient and a third-party source influences how much time applicants spend receiving positive information about a recruiter (Van Hove & Lievens, 2009). Based on Van Hove & Lievens' (2009) notion of source expertise, the experience of the source with the role the applicant is aspiring to also appears to be important. Perhaps applicants' identification and choice of third-party source reflects their evaluation of both the relative amount and the quality of information a third-party source is likely to have. One should probably be careful not to make too many assumptions about what transactions occur between recipients and third-party sources. Applicants may be swayed by the fact that there is already someone they know working as a research student, and rather than necessarily trying to gain a great deal of information, they may be more likely to base their judgement on the fact that someone they know is already working there (an example of exemplar trust, Nooteboom, 2002). A highly trusted third-party signals elements of trust for example authenticity:

'I heard about it from my teacher, which makes it more authentic.' (21: woman, 24)

For others, the presence of a closely tied and trusted individual may also be a salient source of support, for example having a partner who is, or was undertaking a research degree. In such cases the attraction to the organisation may be due to shared goals and the strategies adopted, including pragmatic considerations (such as child care) rather than information about the recruiter per se. Although the specific information being exchanged is undoubtedly important, in this context, tie strength may be a proxy for other aspects of the relationship between an applicant and a tie, e.g. shared life projects, level of identification with a role model and trust.

9.5.2 Stage 1 - What influence does the present occupational context have on the decision to apply for a research degree? - Work influence on attraction

There were fewer responses for question 13 (*Briefly tell us about your current work situation if this influenced your decision to apply*) than for question 9 and 10 (*What attracted you to study for a research degree?* and *What attracted you in particular to apply for this research degree at the Open University?*) possibly because applicants felt they had already referred to their work situation in their answers to question 9 and 10. Several of the earlier responses referred to existing jobs and their role in making a research degree seem attractive. However, the template representing work influence included only responses to question 13. Restricting the work influence template to this question (rather than including responses from question 9 and 10 was a pragmatic decision) helping to keep the volume of responses needing to be coded and analysed manageable. However, where applicable, links will be made with themes from the other template. Figure 9.3 shows the template and its main themes.

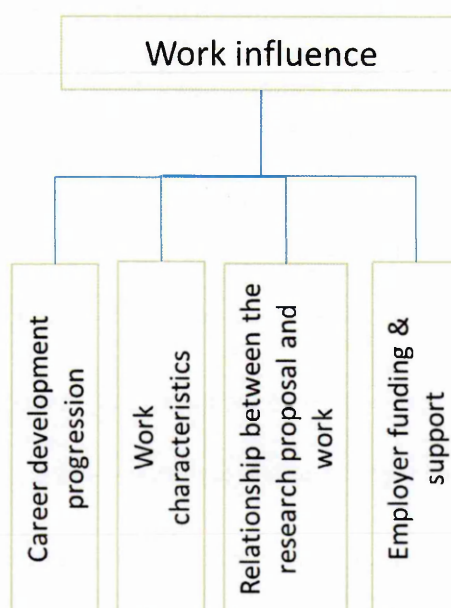


Figure 9.3 Stage 1: Work influence template

9.5.2.1 Career development and progression

Mirroring the content of the career focus attraction template, the work influence template indicated how applicants typically framed the research degree as a requirement to enable them to enter, progress, or advance within a career:

'I need this research degree to progress in my career.' (22: woman, 31)

Similar to the previous template, some respondents specified the type of career they were aiming for, including a move into academic or related professions (e.g. consulting). In contrast, others outlined the limitations in their current career as an influence in their study decision and a means of overcoming a current limitation or problem:

'I am limited to teaching high school students, but would like to teach at the university level' (23: woman, 38)

'Care work is honourable, but limited and poorly rewarded.'(24: man, 48)

For some applicants the alternative to working in their present job was the move into the research studentship as a stepping stone to an improved career position in future, as in this example:

'I would consider leaving my employment in order to pursue a PhD, as it will open my ways to better employment / career in future.' (25: man, 27)

These responses add support to the idea that a research degree is perceived as instrumental for achieving career-related goals and change.

However, not all applicants are intending to leave their employer in favour of a research studentship. Some expressed extending their current work role by combining it

with a PhD. One scenario here is where an applicant's existing job creates a demand for development and training to meet new or existing responsibilities:

'My current work situation has influenced my decision to pursue a PhD because my supervisor made me responsible for a research project' (26: woman, 28).

Indeed many applicants referred to doing their research degree part-time, alongside their current job, and making deliberate work choices to enable them to pursue their studies and achieve their long term objective. See the following as an example of a decision to decommit from a permanent position:

'I currently work as a project manager on a temporary contract with the possibility of being made permanent. I will not be able to combine both so have decided to not apply for permanency and try to find more flexible working patterns to supplement my study' (27:Woman, 41).

However, where applicants perceive a stronger synergy between their current work and the PhD option, it provided an opportunity to negotiate a new working arrangement (e.g. part-time), by which to maintain some stability throughout the period of study while also supporting their research degree:

'I am currently working at the Health Protection Agency as a statistician. The opportunity arose to extend my current work suitable for PhD study. I aim to work part-time while still employed at the HPA' (28: man, 33).

9.5.2.2 Work characteristics

The second main theme emerging from the data is termed *work characteristics* referring to mention or naming of the type of job they did, and specifically included how the characteristics of their current role contributed to their decision-making. Where a job was named, links to their proposal (discussed further below) were typically made. This

theme enables an insight into attraction and how job preferences might influence the decision to embark on a research degree.

Most of the respondents' comments here relate to their current job with many indicating established careers, such as academic positions in further education, research positions in the UK and elsewhere and technical positions in non-academic institution. Surprisingly few applicants reflected on concerns about the work patterns for their existing jobs, for example issues of flexibility, mobility and security. One possible explanation may be that most applicants were aiming to do part-time degrees unless funding for full-time study was available. Part-time study would then enable them to continue in their job role thereby making funding a less salient concern.

Some applicants' responses implied their satisfaction with parts of their job as possible motivators for choosing to pursue a research degree, as the following example indicates:

'...I enjoy the clinical work, but find aspects of the management work dull and stressful. I would like to work in research, but I am uncertain whether my Master's level qualification is sufficient to do this. I do have concerns about how changes are implemented in the service, hence the idea for my particular research topic. I can't envisage staying in my current position for many years' (29: woman, 51).

We can see clearly how this applicant is dissatisfied with aspects of her current work role, and looking to improve her level of engagement with her job. She perceives the research degree as a tool for career and role innovation, by focussing concerns at work (service changes) into a topic for a research degree. Doing such research could remove or mitigate the dissatisfaction with the management role by offering new intellectual challenges, as well as contributing to innovation in the employer.

Furthermore, organisational change may be at the root of the job-related strain mentioned, restricting decision-latitude and increasing job demands (Karasek, 1979). It is conceivable that the link between the research topic and the job may be an attempt to increase control over the job situation thus reducing strain experienced in the management role. The last comment indicates an intention to change employers at some future point, with a research degree providing a bridge between exit for the current role, whilst creating a foundation for subsequent career and job change.

9.5.2.3 Relationship between the research proposal and work

As the previous theme indicated, several applicants mentioned links between their research proposals and their current work. During coding it became apparent that this was potentially a two-way process: Firstly applicants perceiving that their proposal had relevance to their work, and secondly employers perceiving (and supporting) research work as relevant to their business.

Some applicants framed relevance in terms of the skills they need to improve in an area of expertise:

‘I do not intend to leave my employer but to improve my understanding of issues related to fostering, biological parents and professionals working within fostering’ (30: woman, 68).

Others reflected on the relationship between a research degree and work not just in terms of their own skills, but more broadly in terms of organisational strategic objectives, for example regarding innovating production or other work related processes:

‘The contact with manufacturing processes and the process of design had made me want to continue my education with a PhD about design and innovation. Also the

need of sustainable products make me want to search for innovation.’(31: woman, 28)

Another group identified the contribution of their previous and current work experiences in their drive to make a lasting and effective improvement in their sector, and the wider societies, for example:

‘I have had the opportunity to work in the [...] (details anonymised) sector contributing to the elimination of child labour and promoting fairer trade in [...] as a commodity in a manner that improves the incomes and social welfare of [...] farmers. Based on the background experience I have gathered, I have identified that [...] production process accelerates climate change due to unsustainable environmental practices like conversion of forest lands, chemical application etc. Meanwhile, there is weak environmental governance regime making regulation very challenging. I therefore was influenced by the opportunity to a [...] scholarship. Scholarship (especially as I cannot raise the required funding) would have given me to pursue a PHD to contribute to academic research and recommend to policy makers on a better way to deal with environmental challenges in the [...] sector.’(32, man, 35)

Differences in the amount of detail provided by applicants may be attributable to the different stages of their decision-making, with some applicants being less clear on their proposal and research questions. In addition, not all applicants had a proposal that related easily to their current work context. However, those who were able to articulate this relation to work and their proposed research appeared to be more highly engaged and invested in both their current work situation, and the research degree proposal. Their motivation also appeared to transcend a mere contractual relationship with their

employers. These more detailed proposals suggested a stronger relationship with work in a broad sense, typically being transformative, either in terms of self, or more far reaching goals, that are aligned to 'greater purposes', such as fairness and equity or pursuit of original academic knowledge and innovation in a particular area.

In this way existing dissatisfaction with their current job role appeared to be less salient a reason for research degree study than expected. Some applicants clearly articulated dissatisfaction, but gave little detail of the work characteristics they encountered in their current job. This may suggest a more complex process in which dissatisfaction only plays a small part considered within applicants' evaluation of constraints and opportunities arising from their personal circumstances and life stages. Applicants did appear to be active participants in planning, deciding, and evaluating both opportunities and their own needs and goals, often being strategic and pragmatic in their approach. In this way registering for a research degree seems to provide an opportunity to make changes (large and/or small) in their current career stage and personal lives. Such change may serve multiple purposes and could be regarded as a strategy for liberation from sometimes underpaid and unstimulating jobs whilst also achieving long-term aspirations and goals.

9.5.2.4 Employer funding & support

A further aspect of the relatedness between the research degree and the current employment situation concerns the question of funding. Employers are probably more likely to fund research students if there is perceived relevance between a research project and an employer's business; in the coding template responses were coded as a subtheme of the work/research relationship theme unless funding or quid pro quo support was specifically mentioned in which case they were grouped here under employer funding and support.

Several applicants commented on the availability and/or necessity of funding from employers. Whether employers 'valued' the research proposal could well be one of the deciding factors why some were looking to exit their existing employment. However some quotes indicate a more strategic approach:

'I shall be leaving my full time post as Director of [...]. I lead policy and practice for [...]. They actively support my intention to undertake a full time PhD but are not in a position to fund me but will provide any data, literature, support and contacts required in relation to young people's [...] care' (33: woman, 60).

The applicant quoted above refers to withdrawing from her current employment, while remaining on good terms and using existing contacts with the employer's area of business in pursuing her research. This applicant appears willing to break the security of a well-paid secure position to engage in what appears to be a mostly unfunded research studentship. This suggests a belief in the certainty and confidence in being able to succeed with a research degree even when funding is unclear and the accompanying risk of separating from an employer and relying on their continued goodwill makes this a context for trust.

Some applicants identified redundancy, with supposedly relatively large pay-outs, as offering them the financial means to sustain their efforts in achieving their goals, for example:

'At the time of the application I was in full-time employment, so wished to study part-time. I am now redundant, though able to support myself for a few years. So, this would be a good opportunity to study full-time.' (34: man, 57)

However, such examples were rare, and it is not clear whether the majority of applicants had established careers and savings they could draw upon to cover their costs.

Given that several applicants identified a dilemma between studying part- or full-time, one may suspect that employer funding is not universally available or that the terms for such funding support part-time study only.

9.5.3 Discussion of stage 1

Reviewing the attraction template in the light of the description and analysis provides a thematic insight into linkages between themes and meta-themes that were not apparent in the initial template construction and coding, but emerged during the write-up. As is shown in Figure 9.4 below, the attraction template can be grouped at a meta-level according to instrumentalities (e.g. how a research degree can be instrumental in achieving career goals), organisational affordances (a combination of attractive organisational characteristics and opportunities) and personal/social aspects (comprising sources of attraction that are intrinsic, individual or based on the information/influence provided by others).

As regards the work influence template, applicants' mention of elements were linked to factors in the attraction template. The diagram above has curved arrows showing these thematic linkages. Thus when applicants talk about the influence of work as relating to career development and progression, they are implying elements of attraction that are found in the career focus and qualification focus themes. Work characteristics were linked to the organisational focus theme with applicants trying to fit their existing work situation and aligning it to prospective organisations they are applying to (for example establishing whether they have the flexibility to continue work while occupying a research student role). The relationship between the research proposal and work was difficult to link to a single theme in the attraction template, but it appears to have strong resonance with academic focus and organisation focus themes. Finally, employer funding and support appear to be conceptually linked to the opportunity focus

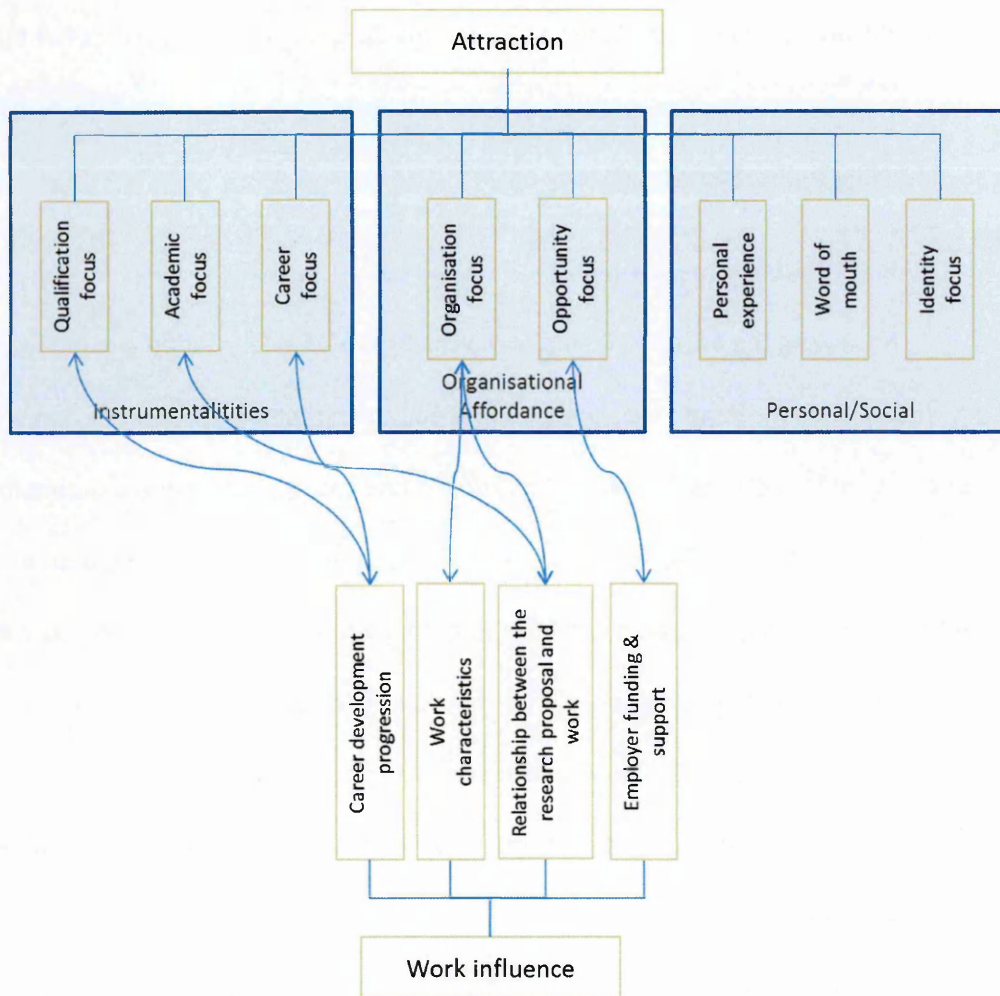


Figure 9.4 Combined stage 1 attraction template, showing meta-themes

theme. This latter connection is evident in how employer funding creates opportunity to study for a research degree, which improves the attractiveness of the studentship financially and logistically.

One interpretation of the different responses about what is attractive to applicants is that they reflect the most salient aspects of their experience. Applicants did not use the term trust in their responses; rather these elements became manifest through my interpretation and application of theoretical lenses and identification of their vulnerabilities, uncertainties and attributes they reported as regards the research degree provider. The view emerging from this interpretative process underlines the role of

reputational and third-party influence as well as the presence of elements of trustworthiness as found in the trust antecedent framework. On the other hand the diversity of applicants' responses also emphasises that trust placed in different organisations (employer, training provider) or individuals (e.g. third parties) operates in ways reflecting applicants' personal foci, in ways that were not captured in the previous statistical analysis.

One of the challenges in trust research is that trust only becomes noticeable when there is a problem (Möllering et al., 2004). In this study and this stage of the recruitment process, it may simply be that applicants do not perceive any problems and therefore trust does not become a salient issue. However, by studying the issues that are salient (e.g. aspirations and motivation/goals), one may gain an insight into the circumstances under which trust might become a problem if the training provider or other stake holder organisation do not fulfil their obligations. As a mixed methods researcher adopting a qualitative approach, making sense of data which is often short and in brief note form, one is invariably drawn to making assumptions about the decisional and attributional processes respondents appear to rely on. In this case applicants' responses are assumed to imply trust in formation, with their reference to salient issues defining what their trust is based on.

This study foreshadows some of the potential vulnerabilities a commitment to a research degree entails. Applicants in this study are at the beginning of a potentially life-changing process, and as some responses indicated in some cases they have high expectations as to where their PhD might lead in terms of their career. However in contrast, research done nationally suggests that around 30% of accepted applicants drop out before completing their PhD, and salary increases are not that much greater than for master's degrees (Casey, 2009). Whilst there are clear benefits to society in producing

PhDs, the benefits to individual PhD students themselves may be less clear. The lack of teaching positions in universities and the preponderance of temporary research contracts for post doc researchers, suggests the path to a sustained career and steady income trajectory may be long and fiercely competitive (see also chapter 3). However, none of the respondents appeared to show any awareness of these latter issues. As well as not being asked direct questions about it in the survey, high levels of confidence (see evidence from chapter 7) may also make such issues less of a concern resulting in few comments that can be labelled as trust.

As will be shown in the discussion of stage 2, job preview experience for these educational progressions and vulnerabilities become more salient during the interview stage *after* applicants have visited the institution and discussed their research and role during their interviews.

9.5.4 Stage 2 - post interview reactions – Overall impressions of interview selection stage

A smaller number of participants completed the stage 2 survey question 'What is your overall impression of the interview/selection process?' (N=45)

Four main themes emerged in this section regarding applicants' overall impression of the selection process (see figure 9.5).

9.5.4.1 Short responses

Several responses were coded as *short responses* (e.g. 'Fine', 'Very disappointing') either indicating a negative or positive experience but not revealing any further information about why their experience was negative or positive. Almost all were positive with only a few response indicating negatives.

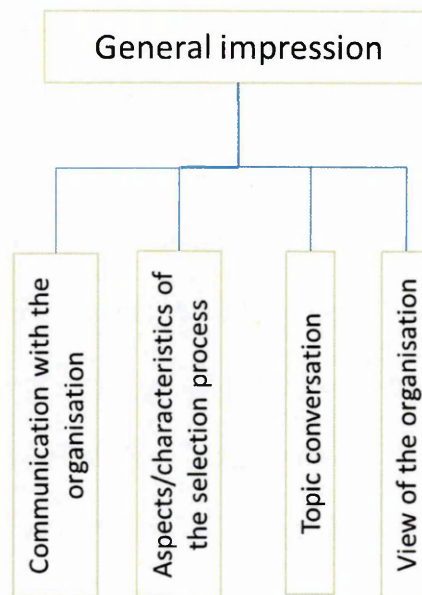


Figure 9.5 Stage 2: Overall impressions template

9.5.4.2 *Communication with the organisation*

The first theme, *communication with the organisation*, reflected applicants' contact with the organisation via face-to-face contact, or other media. Not included here were specific references to communication of selection outcomes (e.g. feedback). Contact with the organisation seemed to convey positive aspects of the climate and culture that reassure applicants to continue pursuing an application:

e.g. 'helpful and welcoming rather than intimidating' (35: woman, 53).

Moreover, communication with the organisation may also amplify perceptions of organisational and supervisory competencies and capabilities that are relevant to a research studentship and imply perception of trustworthiness as exemplified in the following:

'Telephone interview with tutor/supervisor regarding potential resubmission of proposal: Impressive: very helpful; handy hints; useful and knowledgeable directions regarding content, format;' (36: woman, 47)

Technology was a salient feature of this communication process. Previous research indicates that phone interviews operate on reduced bandwidth affecting interviewer perceptions of applicants, and of applicant performance (Silvester, Anderson, Haddleton, Cunningham-Snell, & Gibb, 2000; Straus, Miles, & Levesque, 2001). It is not clear whether applicants perceived reduced bandwidth as a barrier to their own opportunity to perform and did not seem to be a significant problem affecting the overall perception of the process. Instead technological mediation of the interview process was valued because it afforded applicants greater flexibility that overrode any other concerns, for example:

'It was good. I had some difficulties distinguishing interviewers over the phone due to the sound quality. I also had difficulty understanding one of the interviewers for which English was not her first language. But obviously I preferred this to flying to the UK for an in-person interview.' (37: man, 27)

Even where technology failed, adjustments were made and they were made to feel at ease and allowed to recover their interview:

'During the interview via online, the electric from my side was unfortunately cut out and it made me nervous but the panel kindly made adjustment by possible way and kept continue the process of interviewing by neglecting the inconvenience condition.' (38: woman, 32)

Overall, there were a greater number of positive than negative comments about communication. The negatives concerned the facelessness of the selection process, and disappointment that the university did not communicate outcomes of the selection stage after the initial application. Some of those who expressed disappointment had not been

invited to the interview or had received confirmation of an unsuccessful outcome prior to the survey.

Looking at the responses with a theoretical lens highlighted how contact between applicants and organisations provided assurances. Looking at models of initial trust, experiences of communication seem to convey a sense of situational normality, that 'everything seems in proper order' (Lewis & Weigert, 1985). Organisational and other information served to add to the trustworthiness of the organisation, supporting applicants and generating goodwill perceptions that enhance the view of the organisation as trustworthy. Also there are some examples of justice, such as concerning interruptions to the telephone call, with the interview continued in line with expectations indicating a fair procedure and adding to the belief that the organisation can be trusted.

9.5.4.3 Aspects/characteristics of the selection process

Applicants mentioned specific aspects and characteristics of the selection process that fitted with previous literature on key factors of selection processes. These include single word responses emphasising fairness, transparency, openness, and professionalism. On the whole, responses about the overall selection process were positive with only a very small number of applicants reporting disappointment.

Although not stated directly in responses, applicants appeared to contrast the attributes of the selection process they encountered with their expectations of the process. When expectations are met or exceeded, a positive view of the selection process is created:

'Was very pleased to be told at the end of the final interview that I would be informed the same day. I was expecting to have to wait two weeks until the date set out on the website. This worked well, setting out a final date in case there were

complications, but when possible informing a candidate that the wait for a decision would be shorter.’ (39: man 29)

Even when applicants felt their expectations were not met (for example receiving a short, rather than the expected, long interview) it was not an overall negative experience. However, this may have been a factor in their disappointment as the short responses reflect.

As can be seen from the following example quotes, applicants were able to discern different stages of selection and typically understood the value of each activity in the overall process. Rather than being a process of merely discriminating between applicants, interviews appeared to have a developmental and fit-maximising purpose that enabled both the organisation and the applicant to choose:

‘My overall impression of the selection process was that finding a supervisor or group of supervisors was central to being accepted for a research degree.’ (40: man, 45)

Challenging activities exposed applicants’ understanding of the topic they were planning to research, as illustrated by the following:

‘The process was good with opportunity to discuss that I was fully aware of and also learn new things from challenging questions.’ (41: woman, 25)

On the other hand some questions got applicants to test their knowledge and understanding to different degrees as exemplified in the following quotes:

‘I felt that some key questions pertaining to my research were ambiguous, therefore I was not sure about the answers to give. I find this rather odd as I believe I have good knowledge of the topic I’ve been researching for two years.’ (42: woman, 35)

‘the interview has been useful to test my ability to talk about my project and discuss it in a scientifically relevant context.’ (43: woman, 29)

There is no evidence, that challenging questions adversely affected applicants, and may be a feature of the process that pushes applicants into new, more critical ways of thinking about their proposed projects before they begin their research degree. Such challenges help to test flexibility and open-mindedness. These challenges may be designed to help move a proposal closer to the interests of the supervisor. Furthermore challenges could also be regarded as providing a realistic preview of the cognitive work involved in research. One reason why there are no reports of being deterred by such challenges may be that those applicants were not selected, or withdrew from the research study at this stage.

9.5.4.4 Other themes for overall impressions

There are two other short themes in the overall impressions template (template 3), but these are also repeated in more detail in template 4. The first theme refers to the *topic discussions* applicants had during their interviews, which were generally described in positive terms and referred to as supports rather than obstacles in template 4. The second theme concerns the view of the organisation as a result of attendance at the interview. Most of the responses here were positive; but the example below shows how a general negative impression can be formed from the interview.

‘Closure of social science options indicative of OU focus on income rather than maintaining academic status.’ (44: man, 70)

9.5.5 Stage 2 - post interview reactions – Supports and obstacles

Two questions regarded the supports and obstacles during the interview and revealed the factors which contributed to a general perception of the selection process,

but also to the understanding of how applicants made sense of the process and role to which they have applied.

(q4) Were there any things in this process that were particularly supportive?

(N=37)

(q5) Were there any things that were unhelpful to you in any way? (N=35)

Responses for both questions were grouped into one template (Supports and Obstacles in selection) using – and + to distinguish polarity of the responses during coding.

Six key themes emerged (see figure 9.6 below)

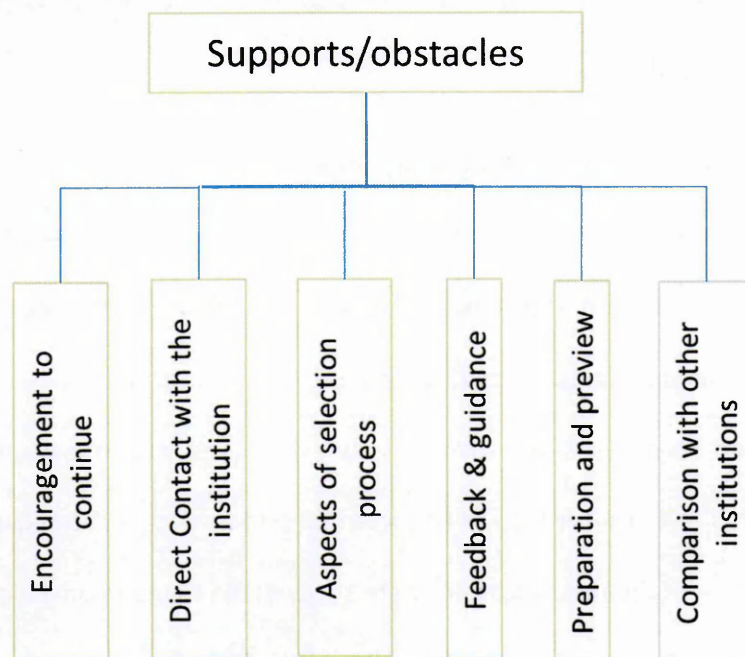


Figure 9.6 Stage 2: Supports and obstacles template

9.5.5.1 Encouragement to continue

This theme emerged during template construction grouping responses that indicated motivational issues for example continuing pursuit of applications in the face of doing additional developmental work and feedback. I also included references to anxiety,

because of the documented effects anxiety has on job applicants' continued job pursuit intention (McCarthy & Goffin, 2004). Applicants' awareness of a potential supervisor who engaged and showed interest in a project also seemed to fit with a theme of encouragement. It is important to recall that applicants indicated that a central purpose of the interview was to find a supervisor (for example, see quote 40 above). Interest of a supervisor offered a strong signal that their proposal was valued and therefore worthy of further pursuit.

Perception of favourable organisational capabilities in terms of the supervision arrangements were also described as motivational as in this example:

'The supervision aspect of the institution motivated me to pursue a research degree.' (45: man, 54)

How the selection process was conducted, in particular in relation to applicant feedback also appears to encourage applicants to continue with their pursuit, including reapplications by those who were initially unsuccessful and those who resubmitted reworked proposals.

Previous research has suggested the role of selection expectations (warmth, unbiased assessment, feedback, chance to show potential, and difficulty of faking) as predictors of job pursuit motivation (Schreurs et al., 2009), and the data in this study support their role. Although there appears to be less direct information on whether motivation is derived from expectations being met, applicants' motivation to pursue their application seemed attributable to raised self-efficacy and feelings of control over the process (e.g. via discussion and resubmission of a proposal). In this way the recruitment and selection process raised the confident expectations that are a central aspect of trust,

and which reduces the perceptions of risk and uncertainty involved in registering for a research degree or continuing to pursue an application.

9.5.5.2 Direct contact with the institution

The theme *direct contact with the organisation* was predominantly a response to question 4 (supports) suggesting that overall contact with the organisation is perceived as a support. Contact with the organisation appears to afford applicants direct experience of facilities and personnel, including supervisors and existing research students (see also section 9.5.4.2). I included direct contact together with contact via other media, including interaction with the website in this theme, since an organisation's website often serves as a portal for organisational information gathering by applicants, for example during the pre-interview stage. In terms of organisational attraction, web-based information is also strong conveyor of brand (Allen, Mahto, & Otondo, 2007) and is particularly important to organisations with a global reach, such as the Open University. The term 'direct' in this sense refers to the type of contact that allows applicants to gather information about the organisation and its capabilities directly from the organisation, rather than through other parties (e.g. career libraries, reviews, or third parties).

Relating to trustworthiness, several applicants mentioned the expertise and competence of prospective supervisors and other academics they met during the interview stage. Notwithstanding differences in the questions asked, drawing on my observations of stage 1, where applicants frequently refer to the reputation of the university, the emphasis in stage 2 appeared to be much more on supervisors. One possibility is that direct contact during the interview stage allowed initial institutional trust to become transferred to trust in the supervisor. The idea of transferring or extending trust (Strub & Priest, 1976) has gained currency particular in relation to marketing psychology (Doney & Cannon, 1997) and other contexts (for example, trust

transfer in health practice education settings; Wilson & Patent, 2011). Following the comments applicants made about supervisors seemed to imply the supervisor's association with a trustworthy organisation enables transfer from institution to supervisor. Alternatively, it may be that initial high trust in supervisors also transfers and extends to the organisation, and thus the reputation of the organisation and its PhD supervisors may be intertwined to varying degrees. However, judging from the responses at the interview stage, such reputational trust appears to be less about an institution's general reputation, and more about the competencies displayed by supervisors during the interview stage. Thus the direction of this extension seems to be more likely to flow from organisation to supervisors, rather than the other way.

9.5.5.3 Aspects of selection process

Several applicants mentioned specific *aspects of the selection process* as supports or obstacles.

This theme has obvious links with the previous one (*direct contact with the organisation*) since selection is one of the main points of contact between applicants and the university. However, this theme reflects more the precise tasks applicants performed as part of the selection process, and their reaction to them. Regardless of the selection outcome, applicants' responses related strongly to whether or not they were given a fair hearing, and had the opportunity to perform, reflecting theoretical perspectives on applicant reactions (e.g. Bauer et al., 2001). Fairness of the procedures and opportunity to perform also appeared to be closely linked to whether or not they gained direction or focus for their proposal. For example:

'The proposal writing stage was very rewarding. I put my effort into it and though I didn't get the scholarship, I believe I did my best.'(46: woman, 42)

'Because of the question in the interview, it brought me a clear direction what I need to do to pursue the research degree.'(47: woman, 32)

On the contrary side, applicants reported obstructive procedural aspects, including poor timing of interviews, travel and disruptions to the interview, as highlighted in this response:

'One of the panel members was running late and/or could not attend so he/she was replaced on the day by someone else. I also had to travel to the UK for the interview and would have preferred an afternoon session, instead I was given a 9:00 slot that meant I had to arrive the day before and bear the cost of a hotel. During the interview I got interrupted twice by people 'popping in' the room 'accidentally' but one of them briefly conversed to one of the panel members. My interview was for a PhD studentship and I sensed that members of staff did not put any effort to make this experience pleasant for me.' (48: woman 35)

The above suggests how a flow of experiences can lead applicants to infer the level of interest and engagement of interviewers (and prospective supervisors). The attribution made by the applicant may well be coloured by the experiences of the initial and on-going procedural aspects of the process, and may also suppress an applicant's performance and their decision to accept an offer.

Other responses here suggested applicants used previous interview and selection experiences as frames of reference for judging the current interview process. In the following example the applicant's past experience of earlier applications at both undergraduate and postgraduate levels is used to contrast their present experience:

'Having studied from primary degree level right through to masters, the flow from one level to the next is seamless. However, the application process for PhD level is

not student friendly. The OU needs to keep in mind for most students are studying part-time, from a distance, which means their interface with the OU is the computer. Therefore adequate information and access to relevant personnel is vital. I personally was very disappointed with the lack of information and access to relevant staff, during the application process.’ (49: man, 44)

Selection and job information appear to play a critical part in how applicants perceive the selection process. A good example of the role information plays in preparing applicants for the interview (as well as the actual post applied for) is given in the following example:

‘Website has broad overview of research degree stages but it is not very in-depth. I would have liked more on the specifics: courses taken in the first year, orientation and initial tasks, timescale and requirements to be registered for the doctorate. Obviously this differs widely, but I was concerned while preparing for the interviews that I didn't know what Open would expect from a research student, making it more difficult to be confident in the interview that I could meet expectations.’ (50: man 29)

Information may be important, not just because of its perceived role in helping to prepare for an interview, but also to gain insight about fit with the job role and organisation. A research degree is a lengthy commitment with significant risk of non-completion. Some literature on academic recruitment and selection suggests that accuracy of information during the recruitment and selection stages is related to job survival (Saks, 1994); therefore having insufficient or inaccurate information (e.g. about the research process) is likely to reduce confidence and increases applicants' perceived risk overall. Data for this template resonate with Colquitt & Rodell (2011) who showed

that only informational justice predicted trust (defined here as a willingness to accept vulnerability) in supervisors. In the light of the present study which involves anticipatory rather than established supervisory relationships, informational justice (e.g. the perceived fairness of information provided for interview preparation) may offer a strong signal because information quality and volume can influence performance efficacy during selection interviews, as well as highlight salient risks of accepting a job role. Considering trust within this process, increases in confidence and perception of certainty around risks could be regarded as an indication of increased trust, thus supporting the link between justice and trust with justice as an antecedent of trust (cf. chapter 8)

In discussing specific elements of the selection process applicants referred to the questions they were asked at the interview, rather than to other selection methods (e.g. psychometrics, assessment centre). To some it was not clear why they were being asked the interview questions, while some viewed the questioning as clarifying their own proposal (see previous theme), others viewed such questions and the conversations as reflecting the characteristics of the supervisor (e.g. expertise and competence) and made inferences about the level of a supervisor's engagement with their research:

'The academic was very learned but had her own particular areas which she wished to stress within my proposal (i.e. origins/sources & peripherals), mainly not related to the issues in which I am most interested (i.e. developments further, wider, later & beyond. While interested, I have little knowledge of those areas at this stage. So some confusion? She seemed not to have read the full proposal but had a general idea of it which she asked me to explain and elaborate. This was confusing yet helpfully constructive.' (51: woman, 47)

As the above example shows, this applicant makes inferences about the supervisor competence and clearly this did not seem to fit comfortably into her expectation of this stage. On the other hand, despite noting her confusion at her interviewer's behaviour, she gained some benefit in thinking constructively about her proposal.

The evidence from all the responses in this theme suggests that aspects of the selection process become salient, because of their perceived effects on selection outcomes and the uncertainty and risk they foreshadow in the future job role, particularly supervisory relationships. As applicants engage in a process of sense-making they become receptive to signals indicating reasons for being confident in their decision to embark on a research degree. In this process both perception of justice/fairness and confidence seem to enable an evaluation of this decision, serving to establish a perception of fit between themselves and the relationship they anticipate with their prospective supervisors.

9.5.5.4 Feedback & guidance

An initial version of the template included '*feedback and guidance*' as a sub-theme under '*aspects of the selection process*' (theme 3, above). However, in order to manage the size of each theme, these two were separated later. Applicants' experiences of selection and of feedback were clearly linked to each other. Generally feedback was perceived positively and as encouraging, regardless of whether applicants were offered a place or not.

Similar to responses for the previous question, longer responses indicated some problem for applicants, for example:

'I received an email a week before being accepted telling me that I had missed the deadline for application. This was very upsetting as I had sent my proposal 3

months earlier recorded delivery and as it turned out it had clearly arrived. I replied to the email sending a copy of my receipt asking for confirmation of receipt or lack of for my proposal and heard nothing back.' (52: woman, 38)

The above quote highlights possible reasons why some applicants were not receiving feedback, for example due to oversights and errors but also identified the effort applicants applied to receiving feedback on their application and interview.

Some applicants expressed worry and concern at not hearing whether their application had been progressed, and although it may be common practice in selection and recruitment not to contact unsuccessful applicants, this appears to leave many in confusion. As distinct from other types of applicants, those applying for a research degree may already be highly invested at the level of an institution and at the level of specific supervisors or research teams. Thus, not being accepted may weigh heavily in terms of aspirations and goals, as well as their self-image. An example of the investment made by applicants and its lack of recognition by the institution is given in the next quote which exposes the negative impact of feedback procedures on subsequent perceptions of fairness about the selection process:

'The way that I had to ring in to find out that I wasn't accepted, I felt this was a little unfair having spent an equal amount of time putting the proposal together as those who were accepted. (53: woman, 53)'

A link emerges here between feedback, transparency and applicant reactions. Where ongoing feedback provides applicants with a view of the selection process, it also informs them that they are still in the running. Even if ultimately they are unsuccessful, feedback provides some explanation to support them in future attempts of securing a research studentship:

'I acknowledge that the feedback was pertinent to support me in a second attempt' (54: woman, 53).

Looking at those applicants who received no or little feedback one might consider what type of message a lack of feedback sends to applicants, e.g. that their application was not valued, that their ideas were weak or that lead them to conclude they should therefore abandon any plans to register for a research degree. Gilliland et al. (2001) show that reactions to rejection differ depending on how applicants are informed and what reasons are given for their rejection. A further factor in feedback reactions is whether or not they have had ample opportunities to perform (Schleicher, Venkataramani, Morgeson, & Campion, 2006).

Data from these respondents suggests that feedback quality and volume offer salient cues about the fairness of the organisation and its processes leading applicants to consider whether to continue applying if they are unsuccessful. Negative feedback may be viewed constructively encouraging applicants to develop their proposal for a reapplication and improving the quality of their initial outline and research idea (as in the case of respondent 54). There was little evidence at stage 2 for the impact of feedback on word-of-mouth intention, but given the large number of applicants who reported third-party recommendation as the source for their attraction to the university (cf. stage 1 attraction template and chapter 7) failure to provide effective feedback may ultimately be counterproductive and limit the effect of third-party recommendations on increasing the applicant pool in future.

9.5.5.5 Preparation and preview

A theme emerging from comments referring to proposal feedback was *preparation and preview*. I organised comments under this theme when respondents

referred to activities and experiences that enabled them to prepare for and preview their research degree studentship. A further reason for separating this theme from others was the role that realistic job previews play in selection and also in the outcomes of subsequent job placements (Premack & Wanous, 1985; Wanous, 1973). Realistic preview can decrease initial job expectations and increase withdrawal rates of poor applicants. Recent work has highlighted that the effect of preview on longer term outcomes is mediated by the effects of preview demonstrating honesty (Earnest, Allen, & Landis, 2011). Thus, selection processes enable applicants to discover aspects of the job role that may be detrimental to them, and impact on long term commitment if they perceive an organisation being honest in their portrayal of the job role. During the development of the template many respondents talked about activities that could be classed as job preview, and so this theme captured this type of response.

The interview stage offered applicants the opportunity to ask specific questions about the work of research students:

'I was glad I asked about what the work week is like for research students in computing. It was helpful for me to know because I didn't know whether or not attendance was required a certain number of days per week' (55: man, 27)

A research degree progresses through different stages and applicants used the interview to clarify progression routes, for example from MPhil to PhD stage, funding, the facilities for their research topic, expectations of students, structure of taught components, and other aspects involving the practical requirements of doing a research degree.

The second area of the *preparation and preview* theme involved the actual research proposal. In the interviews applicants could discuss their proposals and gain

feedback on their initial ideas, as well as receive guidance on how to target particular research interests at the university.

'This process helps me figure out my weak points in terms of theoretical questions.'

(56: woman, 29)

'The act of writing the proposal was helpful in guiding the ideas on what areas to consider in depth' (57: woman, 56)

'Advice on narrowing the scope of my proposal to be more focused around one or two particulars, especially those relevant to academics' own interests.'

(58: woman, 47)

Refining proposals may serve several preparatory purposes:

Firstly, refining proposals enables applicants to develop a more realistic expectation of what they can achieve within the 3-4 years of a typical studentship. Secondly by refining the proposal applicants can identify appropriate supervisors in an area related to their project and determine the fit between supervisory interest and applicants' research interest. Thirdly, this process serves to provide PhD students with a preview of the quality of supervisory relationship they can expect as part of doing a research degree. Refining a proposal can provide a preview of the work that may be involved ranging from the type of strategies (methodology) employed to complete the research, all the way to the intellectual aspects of academic discussions that the job role entails.

9.5.5.6 Comparison with other institutions

This theme refers to applicants' experience of selection processes in comparison with other institutions. When considering job marketing perspectives (e.g. Highhouse et al., 1999; Lievens & Highhouse, 2003), contrasts between institutions may be important in

guiding initial attraction as well as subsequent engagement during the selection process. Surprisingly few applicants referred to other organisations. This may reflect that most applicants only applied to the Open University. Alternatively, it may suggest little difference between the Open University and other organisations in the sector. Interview and selection processes may also be fairly similar, and a salient difference only arises when there is a deviation from an expected norm such as the following quote illustrates:

‘Having studied from primary degree level right through to masters, the flow from one level to the next is seamless. However, the application process for PhD level is not student friendly.’ (59: man, 44)

Applicants may not have mentioned other organisations and selection experiences as this was not specifically asked of them. However, it is possible that the lack of responses expressing comparisons is due to participants’ self-selection into the survey.

Those applicants who applied to multiple universities may as a group be less committed or loyal to the Open University, and as a result may also be less likely to participate in a survey. Instead the sample in this study may consist of a group of respondents who are less experienced with interviews at other universities as they are more focussed and committed to the Open University as the provider for their research degree and consequently have fewer comparisons to make.

9.5.6 Discussion of stage 2

The stage 2 templates provided an insight into the impact of selection on applicants – their perception of the organisation, their prospective supervisors and other aspects of the role to which they have applied. Unlike stage 1 templates, there was a greater overlap between the two stage 2 templates. For example, *communication with*

the organisation broadly covered similar ground to contact with the organisation and feedback/guidance.

Evidence from stage 2 is broadly consistent with research on selection impact, selection justice and selection trust (Celani et al., 2008; Gilliland, 1994; Klotz et al., 2013; Maertz et al., 2004; Ployhart & Ryan, 1997; Searle & Billsberry, 2011; Walker et al., 2013) although as with stage 1 links with trust are not made explicitly by applicants and are instead inferred based on interpretation of coded data. The justice elements in this context described by applicants mostly concerned procedural and informational elements of selection. Applicants expressed continued attraction to the organisation and job role, and this may be attributable to favourable experiences; they were treated well, provided with information, had opportunity to perform and perceived the selection interview as fair. This data corroborates results of the quantitative study of stage 2 (chapter 8) showing high levels of perceived selection justice.

Although on face value challenging questions to applicants might have been a negative aspect of selection, instead applicants viewed this as a constructive and integral part of their selection. They showed awareness of selection as a process matching students to potential supervisors, and to ascertain their ability to engage in research. As regards trust, there do not appear to have been any breaches; instead favourable comments indicated how salient examples of trustworthiness (ability, benevolence and integrity) moved from the organisation in stage 1 to supervisors in stage 2. Many of the comments reveal aspects of the process and the situation in which vulnerabilities emerged for applicants based on information they gained during the process and then showed applicants using the process to gain confidence and certainty and evaluate their vulnerabilities (for example risks of failing, choice of supervisor, financial hardship).

Preview is one of the recurrent issues emerging from applicants' responses in particularly in stage 2 and to a lesser extent in stage 1. The interview at stage 2 provided information relating to the research role applicants would be fulfilling. It enabled applicants to gain new information on the working conditions and prospective relationships with their supervisors and thus offered a way to confirm some stage 1 expectations. Discussion of their proposals also provides applicants with an experience of the discursive and cognitive work involved in research. Applicants frequently referred implicitly to personality characteristics of interviewers/supervisors manifested during their social experience of selection, serving applicants to gain insights into the possible management and personality styles of their supervisor.

Recent models have identified elements of supervisory style that promote successful PhD completion (Boehe, 2014; Gatfield, 2005; Mainhard, van der Rijst, van Tartwijk, & Wubbels, 2009). These involve the supportive, directive and organisational activities performed by supervisors in response to student's contingencies during the research degree process. In a trust sense such elements of supervisory management style reflect competence, benevolence and integrity dimensions and are first identified during the selection stage through interactions between applicants and their potential supervisors (except in situations when there has been previous contact between applicants and supervisors). In this way selection and recruitment sets up the confident expectations for subsequent post-registration interactions. Template analysis reveals how contact with the organisation and discussions with supervisors provide applicants with a preview of some of the most salient capabilities of supervisors and apart from alignment of topic interests appear to be used by applicants to judge their fit, before deciding whether to pursue a research degree further.

Thus preview opportunities provided by the interview stage reduce uncertainty and signal the quality of future exchanges as well as the likely tendency of these exchanges to produce desired outcomes (Walker et al., 2013). Both opportunities for preview and experience of selection experience increase trust in the organisation and the supervisor.

9.6 Summary

The template analysis corroborates results of the quantitative studies (chapter 7 and 8) and there were links with justice and trust throughout. This analysis reveals the interaction between applicants and supervisor, and the relationship between applicants and the organisation involving judgements and perceptions of organisational and supervisory capabilities, integrity and benevolence (e.g. ABI) that become manifest during the PhD.

Applicants' responses fit well with uncertainty reduction and social exchange perspectives on trust and justice (see chapter 2), but also the role of signalling and social identity for recruitment. In the template study uncertainty reduction around the different aspects of the job role aids the evaluation of the *anticipated* rather than *actual* quality of the exchange relationships which are forming during the recruitment/selection stage. Gaining confidence around key aspects of the job role throughout the recruitment and selection stages reduces uncertainty. It enables applicants to infer the quality of the likely exchange with their future supervisors as beneficial, thereby creating links with their distal goals of advancing their careers and personal aspirations. Justice expectations and perceptions appear to act as signals that amplify trust, possibly because they emphasise situational normality and provide assurances that structures are in place which safeguard against applicants' future vulnerabilities.

Together with data from the quantitative study (chapter 7 & 8), the analysis of templates presented in this chapter suggest that ultimately acceptance of offers depends on how much trust in supervisors is found via demonstrations of selection justice, organisational trustworthiness, and direct experience of supervisory attributes exhibited during the interview. Thus several elements of behavioural trust (Nootboom 2002) are vital (for a discussion of Nootboom's classification of behavioural trust please refer to chapter 2, section 2.2.2.5). Following Nootboom, applicants' responses highlight behavioural trust:

1. Materials trust (resources available that support a research degree student),
2. Competence trust (of supervisors),
3. Intentional trust (goodwill and care of supervisor and the institution)
4. Informational trust (the information provided during early recruitment stages and selection interactions can be verified) are implicit in the exchanges with the organisation and selection panel described by applicants.
5. Exemplar trust applies specifically to use of third parties (for example current or previous research degree students).

Only conditional trust seems less clearly represented, although much of the preview activities seem to be about probing the conditions applicants will meet, that affect their perceived chance of success or failure.

The template view of the recruitment and selection process shows a much more complex interaction between elements of justice, and trust and other variables than that implied in a quantitative survey sense and also highlights some limitations in the

operationalisation of variables (e.g. lack of distinction in organisational and supervisory trust). Next a final synoptic concluding discussion (chapter 10) will bring together the different strands of data collection and analysis relating to the tracking study and the thesis as a whole with the aim of reviewing the research questions underpinning this thesis.

Chapter 10 - Concluding discussion

10.1 Introduction

This chapter presents an overall summary of the main research findings, integrating insights from the studies reported in the previous chapters (chapters 4-9) and discussing implications for further research and practice. The overarching aim in this thesis is the role of trust in applicants' experience of recruitment and selection and the work reported in the previous chapters reveals evidence regarding the roles of propensity to trust and distrust, organisational trustworthiness and selection justice perceptions in influencing attraction and selection outcome intentions. This chapter begins with a discussion of the achievements and strengths of this research, followed by a further discussion of limitations and recommendations for practice and further research before concluding with some final reflections.

10.2 Achievements and strengths

The achievements and strengths of this research are discussed next with reference to the aims and objectives of the primary research question (*'What is the role of organisational trust in recruitment and selection?'* see also chapter 1, section 1.3). These aims were addressed via two strands of work: firstly an investigation of propensity-to-trust measurement and secondly an analysis of applicants' trust and justice perceptions and other experience during recruitment and selection. Each section below begins with a statement of the strength of the approach adopted with a synoptic integrative discussion of the main findings. Limitations are discussed separately in section 10.3.

10.2.1 Propensity to trust

Propensity to trust was explored in the review of propensity-to-trust scales (chapter 4) and studies one and two (chapters 5 and 6). Addressing questions relating to

propensity to trust aided the subsequent selection and analytical treatment of measures of propensity to trust in the longitudinal study (chapters 7 and 8) and thus facilitated the achievement of the primary aim of addressing the role played by propensity to trust in the formation of organisational trust during recruitment and selection. The research findings regarding propensity to trust, challenge the predominantly univariate conception of propensity to trust. Through comparing and evaluating existing measures, their construct validity and reliability, a better understanding of measures of propensity to trust was achieved, similar to that gained by Dietz and Den Hartog as regards measures of organisational trust (Dietz & Den Hartog, 2006).

In chapter 4 to 6, a case was outlined showing that propensity to trust as measured in previous scales contains multiple facets of propensity to trust. Factor analysis suggests several solutions, but arguably for pragmatic reasons the most persuasive appears to be a three-factor solution (general faith in people, cautionary trust/distrust, and concerns with people's honesty) operating within the combined item space of previously published scales. The findings suggest that all of these factors have some relationship with underlying personality traits, but a large degree of unexplained variance remains. Separation of propensity-to-trust factors provides new insights into antecedents of trust in different contexts (Ashleigh et al., 2012), but also raises questions about the validity of operationalising propensity to trust as a singular construct, or as a facet of multiple personality characteristics.

The factors with the largest number of items found via factor analysis were faith in people and distrust; these are also apparent in shorter propensity-to-trust measures (e.g. the NEO scale used in the recruitment and selection study in this thesis) and as shown in the recruitment and selection study (chapter 7 and 8) they appear to have distinct effects in recruitment attraction contexts. This separation of propensity to trust and propensity

to distrust also aligns with previous work on trust and distrust (Saunders & Thornhill, 2004; Saunders, Dietz, & Thornhill, 2014) suggesting separate processes at work.

One of the issues emerging from the recruitment and selection study and from the work in chapters 4 to 6 is that a dimensionalized view of propensity to trust draws attention to issues around domain experience and influence and its contributory role as an antecedent to trust. Such a view implies that personality is not the only driver of propensity to trust, and in order to account for this, dimensions should be separated at both conceptual and methodological levels. A recommendation for the use of established measures of propensity to trust is that researchers using such scales should explore evidence for dimensionality within the scale and if found to examine the effects of such dimensions separately. A second recommendation arising from a review of previous research is that one should be careful to consider the scope of such measures when evaluating findings. Thirdly, survey-based statistical models of trust should be reviewed carefully in the light of other methodological approaches that potentially enable a less reductionist interpretation of variables and provide a more critical perspective on their relationships with each other. Adopting mixed methods as was done in this research (e.g. chapter 6 and chapter 9) would be particularly well-suited to exploring the role of prior experience within organisational and other domains on people's general tendency to trust.

10.2.2 Trust and Justice in recruitment and selection

Trust in selection and recruitment contexts is an area ripe for exploration (Klotz et al., 2013; Searle & Billsberry, 2011). One strength of the work reported in chapters 7, 8 and 9 is the production of a range of new insights into the role of perceptions of justice and organisational trustworthiness during stages of the selection process. As shown in previous chapters, both statistical analyses (chapter 7 and 8) and thematic analysis

(chapter 9) of stage 1 and stage 2 of the recruitment and selection process support a view of applicant experience and reactions in which trust variables are central, but operating in specific ways within the process depending on the stage. A further strength of this work stems from the adoption of a multi-stage prospective design. Analysis of each of the two stages (see chapters 7 and 8) examined in this study highlights potentially different ways in which trust serves to reduce vulnerabilities arising from recruitment and selection. The main strength of the current thesis lies in exposing important pathways in which trust and related variables (propensity to trust, confidence and justice) appear to impact on both attraction and decisions about job offers. Adoption of a mixed method design (e.g. via the use of template analysis together with statistical analysis of survey questions) is a further strength and has highlighted aspects of the process (e.g. separation of supervisory and organisational trust) that require further research. Finally the use of research degree applicants is a further strength for two reasons. Firstly because the circumstances and context for this group of applicants has similarities with those of other recruitment and selection populations it allows questions to be asked about the elements that make this group the same as well as different. Findings from this study are applicable to organisations recruiting PhD students or similarly invested applicants and point at potential areas that it would be wise to consider during the recruitment and selection process. Secondly there is a lack of literature on the recruitment of research degree students, but also in the area of trust in selection and recruitment. This work therefore makes an original contribution to several literatures.

The remainder of this section now provides a concise answer to the main research question 'What is the role of organisational trust in recruitment and selection?' (cf. chapter 1). At the post-application stage, applicants link aspects relating to their existing career position with their particular expectations of the recruiter in terms of perceived

instrumentalities, opportunities and personal and social agendas relating to the position offered (see section 9.5.3; Figure 9.4). A research degree offers applicants the chance of a transition from their current position to one that is aspirational, but not without risks, thereby implicitly creating a context for trust. In the longitudinal study (chapters 7 and 8), propensity to trust and distrust were identified as important variables in applicants' use of different information sources, and it is difficult not to make a link between the expectations documented in the template analysis (chapter 9) and the use and availability of information sources that clarify and confirm these expectations.

Those applicants high in propensity to trust appear more strongly reliant on trusted third parties in clarifying their choices. Surprisingly, those higher in propensity to distrust also seemed to be more highly driven by career concerns (section 7.2.3.1) although subsequent post hoc analysis suggested these differences may be due to gender effects which require further study. Possible scepticism of their current employer's motives and perception regarding their current career and job situation may predispose those high in distrusting to perceive greater vulnerability in their current job and so view a research degree as a means of avoiding potential job loss through developing their skills and employability. Finally, other variables, such as age, confidence and financial efficacy were found to play significant roles in guiding use of other information sources (e.g. organisational information) while propensity to trust and propensity to distrust had no effect. In conclusion, propensity to trust and distrust seem to operate in highly specific ways that are related to applicants' use of their social networks and to their current career concerns. A surprising finding was the absence of a correlation between reputational influence and propensity to trust or distrust, perhaps implying that organisational reputation is important in deciding to apply to an organisation regardless of one's propensity to trust/distrust or that reputation is itself an antecedent that

bypasses propensity to trust or distrust. Post hoc analysis revealed that when gender was taken into consideration propensity to trust showed a weak significant effect, suggesting that propensity to trust and gender require further study in relation to reputation.

In the post-interview stage of the longitudinal study (chapter 8), justice and trust were found to be significantly associated in a meaningful fashion in promoting favourable intentions towards accepting job offers and recommending the organisation to others. The statistical models tested in this study showed that justice effects predicted outcome intentions via applicants' perception of organisational trustworthiness. The significance of this path was dependent on the level of propensity to distrust with higher levels of distrust breaking the path between justice, organisational trustworthiness and outcomes. The template analysis for stage 2 provided examples consistent with the effects of justice (e.g. fairness) and organisational reputation and trustworthiness, but was less salient in relation to propensities to trust/distrust. Most of the justice concerns mentioned by applicants in their open responses referred to treatment and information provision and the concern about how fairly they were being evaluated by supervisory staff. The qualitative findings from the template analysis suggest that supervisory trust may be just as important if not more so, than organisational trustworthiness in this context (e.g. stage 2 rather than stage 1).

There is no direct corroboration of results between the template study (chapter 9) and the survey study's mediation analyses (chapter 7 and chapter 8) concerning the interview process. Accepting some limitations of moderated mediation analysis (see section 8.6.2 and 10.3, below), a more tentative interpretation of these findings is suggested. The results suggested that propensity to distrust (rather than propensity to trust) controls the mediated path from justice to outcome and recommendation intentions. Further investigation is required, since the analysis revealed that applicants

who are high in propensity to distrust do not form organisational trustworthiness expectations on the basis of demonstrations of justice. The template analysis revealed that justice concerns were not universally mentioned by applicants, suggesting they may be salient for some applicants only. However based on the template analysis one cannot conclude that such sensitivities arise from applicants' distrust; instead a more general conclusion is that justice concerns were salient signals where they involved questions of personal fit and applicant vulnerabilities.

One can speculate why some applicants are more sensitive to justice signals, but in line with models of initial trust, the findings might imply that justice perceptions become important when there are breaches in expectations and when these signal a lack of situational normality and structural assurance. Based on the mediation analysis low distrusters appear to be more sensitive to conditions of low justice than high distrusters, possibly because they perceive a more nuanced, salient relationship between justice and organisational trustworthiness. High distrusters may already have a sceptical view of the organisation's trustworthiness, and so anticipate such breaches and therefore hold more negative structural assurance beliefs. As a result demonstrations of justice have little impact on their perceptions of organisational trustworthiness. Again insights from template analysis (chapter 9) indicate that supervisory trustworthiness, particularly perceived expertise and capability appear to be far more important in applicants' willingness to become vulnerable through accepting job offers than perceived justice of the selection process or perceived overall organisational trustworthiness. In line with the relationship between propensity to distrust and career instrumentality noted in chapter 7, as well as with reference to Nooteboom's taxonomy of behavioural trust, perceptions of supervisory trustworthiness may be a far more salient predictor of success with a research degree than selection justice. Given the lack of consistency between the findings

from the two types of data obtained in chapter 7 to 9, future work should consider separating organisational from supervisory trust and focus on the attributions made by high and low trusters.

10.3 Limitations

Methodological implications provide an insight into alternative explanations of the findings. These are discussed next.

10.3.1 Common method through a mixed methods lens of research

The use of self-report surveys cannot be ruled out as a possible source for some of the effects observed in factor analytic, regression and mediation analyses. Elements such as fatigue and other response bias (e.g. acquiescence biases, central tendency bias, confirmatory bias, participant self-selection into the surveys) may have resulted in patterns of responding that creates factor clusters (e.g. those based on positive and negative item polarity), non-normal distribution of variables and spurious relationships between variables. The implications of common methods are that common method bias can potentially lead to type 1 *and* type 2 errors. Where possible the risk of contamination by common factors was considered in the design of the surveys (e.g. longitudinal, prospective design) and in inspection of results but some common factor variance cannot be ruled out, and considering the observations made by Podsakoff et al. (2003) cannot always be easily and reliably detected.

In line with recommendations (Podsakoff et al., 2003), a Harman single factor test did not indicate common method variance as the cause of the pattern of factors in any of the factor analyses. Scales did not factor as expected (e.g. selection justice scale; organisational trustworthiness scale), and this was addressed pragmatically rather than statistically. As a result some distortion and noise is likely to have entered into the

analysis. Using bootstrapping and estimation techniques (e.g. MLMV and Principal axis factoring) that are robust against violations of normality, some control over noise was achieved, although there are, as previously discussed, limitations arising from the sample/technique interaction (see also section 10.3.3).

In the factor analysis on propensity to trust, the clustering of multiple factors of propensity to trust appeared to be reasonably thematically consistent and several of the findings are in the expected direction. For example the caution/distrust factor in the factor analytic work did not include *all* negatively poled items, but predominantly only those implying caution and good reasons for distrust. Furthermore, in the longitudinal study there is an expected statistical link between propensity to trust (trust scale - NEO; chapter 7) and use of third-party sources. Thus, rather than ignoring negatively worded items on the grounds that distrust is not the reverse of trust (Ferres et al., 2004) or concerns about common method effects (Podsakoff et al., 2003), the separation of propensity to trust and distrust into distinct factors appears to reflect a methodological puzzle which has only been investigated quite recently (Ashleigh et al., 2012) and the present study. The results in the longitudinal study show that when separating items in field studies into separate factors reflecting propensity to trust and distrust, more nuanced insights can be gained. A further caveat to the trust and distrust puzzle is that it is not clear from items whether the 'distrust' factor does in fact reflect distrust or whether it is a measure of caution or risk avoidance. More development in this area would therefore be useful to consider these distinctions further.

The use of template analysis and content analysis in the context of quantitative work breaks the sole reliance on quantifiable survey data and common methods. Employing such data in understanding the context suggests that even when there are significant findings reported, these are only a snapshot against a much wider contextual

and psychological backdrop, and therefore statistical interpretations of propensity to trust and trust within selection and recruitment settings should be contextualised in the wider area of study and in the primary methodologies being employed. In conclusion, using a mixed method lens to view survey-based data affords a view that alerts one to the limitations of the methods employed and at the same time to the rich tapestry from which the survey samples responses. The strength of this approach is that it leads to a review of interpretations of statistical analyses that is triangulated, pragmatic and realistic as well as challenging of the dominant methodologies employed in the field.

10.3.2 Construct validity of trust variables

Propensity to trust (and distrust) are slippery variables and throughout the study (pilot and applicant tracking study) did not seem to fit with established findings. In the post-application recruitment context both propensity to trust and propensity to distrust were completely unrelated to the use of organisational reputation as a recruitment influence. As was discussed in chapters 7 and 8, this is somewhat surprising since reputation can act as a proxy for organisational trustworthiness, and use of reputation should therefore be associated with propensity to trust and distrust. Similarly, the organisational trustworthiness and selection justice scales did not follow the expected patterns. This might point at limitations within individual measures, or at the way in which they were applied in this study.

This research has sought to relate propensity-to-trust measures to other constructs, for example personality. The fit between propensity to trust and big five personality factors confirmed existing patterns of relationship (e.g. extraversion and agreeableness) but also found evidence that suggests other personality traits come to the fore as predictors (e.g. emotional stability and conscientiousness) when propensity to trust is separated into multiple (3) dimensions (chapter 5, section 5.3.5). Rather than

considering this finding as implying a lack of construct validity in the measures or the study, it raises the slightly uncomfortable notion that people's 'measured' propensity to trust in given situations may be due to larger personality facets, that are unevenly reflected in different measures of propensity to trust currently in use.

Using a mixed methods approach in this research allowed establishment of conceptual linkage between quantitative variables and responses to open questions, thus mutually supporting the interpretations made. However, this should not be read as implying that qualitative data validates the quantitative construct in a statistical sense. Instead, being able to link qualitative interpretations with those based on quantitative data suggests that an account is created that is plausible but that is one of several possible accounts that could be given. Inevitable tensions suggested the variables used in the quantitative analyses were limited or that concepts needed further separation (e.g. organisational from supervisory trust). Notwithstanding limitations arising from statistical concerns, a mixed methods approach used in the recruitment and selection study emphasises the advantage of mixing methods, in terms of understanding limitations of the quantitative methods as well as generating new question for further research.

10.3.3 Sample issues

Sample size limitations may have contributed to the lack of observed patterns or effects in quantitative analyses. Sample size limits the power of the analyses and potentially causes statistical tests to produce inaccurate results. To a certain extent bias can be corrected for example with bootstrapping, but larger samples than were used in this research are desirable to avoid overreliance on statistical methods for correcting sample size bias. Issues with factor analysis and sample size although not as serious as initially feared (see chapter 5), require careful consideration as problems with model fit

may in part be attributable to using less than ideal sample sizes, particularly when the measures used have low reliability (Iacobucci, 2010), as some do in this study.

Although the sample sizes used in this research were on the low end of the acceptable sample range, scale construction decisions were based on avoiding use of scales that had poor reliability (chapter 7 and 8). Notwithstanding the samples used in all of the studies in this research, a case was made for running all of the analyses with the present low sample sizes. Rather than invalidating the findings or approach, smaller sample sizes reflect the realities of applied settings where large samples can be difficult to obtain (for example in the recruitment and selection research in chapters 7 and 8) or where characteristics of the data collection strategy result in high levels of non-completion or non-participation (online data collection, chapter 5). One of the big learning areas in the present research has been the need to be pragmatic and produce deliverables, understanding of limitations in survey design and even more careful consideration of strategies for enrolling participants in order to maximise sample size in future studies.

The second issue related to sampling is that participants in the applicant study may not be representative of job vacancy applicants, and instead are highly specialised, in terms of their career aspirations, and their vulnerabilities in relation to recruitment and selection and future job placements. Furthermore, applicants who responded to either survey may be unusual in that they may reflect mostly those applicants who have higher motivation and commitment to the organisation, thus producing a somewhat distorted view of the recruitment and selection process. Given the particular context and this potential response bias it is unclear how generalizable findings from this study are to other contexts. Conducting similar studies with other types of applicants may produce divergent results, for example, the relationship between specific context, the actors in the

context and the nature of organisational and supervisory trust within it. Exploring trust with different samples and methodologies may provide further insights into how trust variables operate in different contexts and ultimately help monitor and diagnose particular issues that may be unique to each setting.

10.3.4 Causal inference

A big concern in the longitudinal study was the control over measurement, establishing a sequence of effects, which would allow insight into the underlying causality. Difficulties in maintaining the logic of a longitudinal design beyond stage 2 of the interview process have limited the analysis to explaining intentions rather than final selection outcomes. Furthermore repeated measurement of the same variables at different stages (e.g. organisational trustworthiness at stage 1 and stage 2) would have been valuable in tracking stage specific effects more effectively. Making causal attributions about the direction of variable relationships is difficult when basing these purely on statistical considerations based on the two stages when there is an inability to control different variable paths between and within stages.

An issue requiring further study is the primacy of trust. In contrast with previous suggestions that trust has primacy (Holtz, 2013), the present study treated justice rather than organisational trustworthiness as having primacy by modelling the relationships in specific ways (e.g. Justice as IV, organisational trustworthiness as mediator). However, there is some evidence of initial trust in the organisation during stage 1 in the form of organisational reputation as an influence on attraction (discussed in chapter 7 with reference to reputation as proxy of trust; Bennett & Gabriel, 2001). Organisational reputation at stage 1 was correlated with organisational trustworthiness at stage 2 but unrelated to selection justice at stage 2 of the recruitment and selection study (chapter 7 and 8). The data in this study therefore suggest that although perceptions of an

organisation as trustworthy appears to persist through the different stages, the effects of justice on organisational trustworthiness appear to that particular stage. Neither reputational trust (proxy for organisational trustworthiness) nor propensity to trust or distrust appeared to be precursors of justice as Holtz's (2013) trust primacy proposition implies they should. Due to sample size limitations, model complexity, and the use of proxy trust variables, this model could not be tested formally using a single mediation analysis, but future work could further explore the progression from initial trust at stage 1 to trust in subsequent stages, whilst also looking at the effect of other variables in the process (e.g. justice).

10.4 A tentative causal model

A simplified tentative causal model based on the findings from the different stages is presented in figure 10.1 below. A number of alternative causal models could be tested that position the variables in different relationship to each other. Due to limitations in the data-analysis software, fit indexes could not be produced to compare between the model fits for these different models in this study. One way to resolve such limitations would be to design survey questions in ways that allow estimation techniques to be used that produce fit indexes and thereby allowing comparison (e.g. Bayesian analysis with indirect effects, ML rather than MLMV) or to use alternative analytic software. Previous research (e.g. Colquitt et al., 2012) views informational justice as predicting subsequent willingness to be vulnerable, but do not consider how uncertainty reduction and confident expectations might be predictors of both informational justice perceptions and trust (e.g. willingness to be vulnerable). One possible avenue to explore further is the co-development perspective of trust and justice (Colquitt & Rodell, 2011; Lewicki, Wiethoff, & Tomlinson, 2005), in particular the possibility that informational justice and trust during

selection are related because they share the same antecedents (e.g. trustworthiness, reputation).

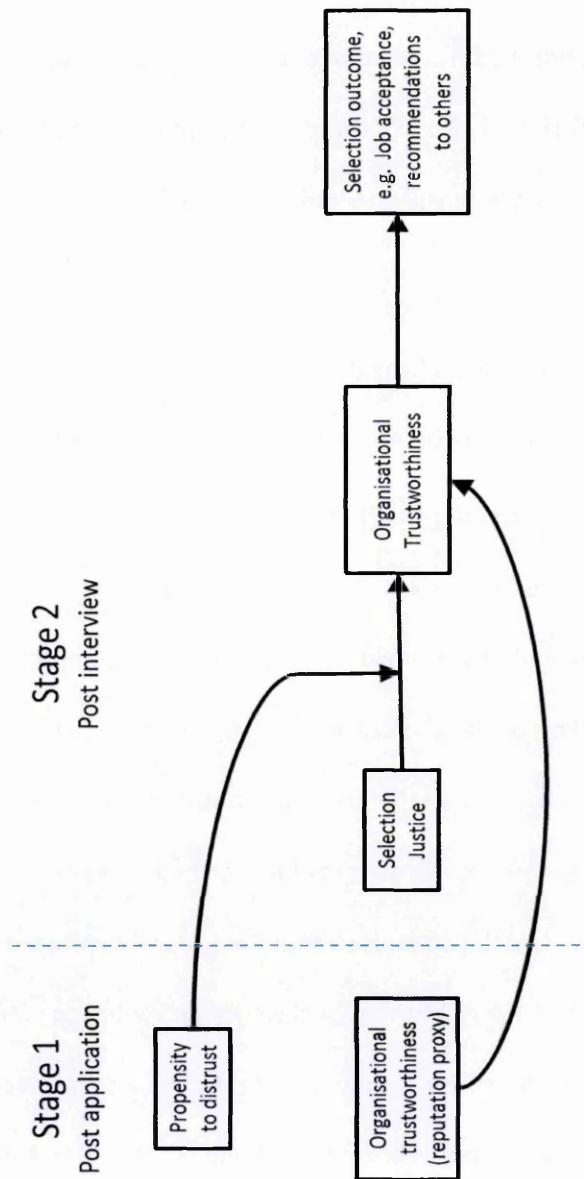


Figure 10.1 tentative causal model of trust and justice in recruitment and selection

At a more complex and detailed level returning to the model diagram presented in chapter 2, this research provided some evidence of links between recruitment and

selection variables, attraction, motivation reputation and organisational information and their antecedents as well the mediation and moderation effects observed. The following diagram (figure 10.3; adapted from that found in figure 2.3, chapter 2) intends to show how the findings from this study fit into the bigger picture of a whole selection process. As there was limited linkage between stages, this model is also tentative. Areas that are unexplored are highlighted with a shaded mask.

At the input stage, efficacy, age, and propensity to trust and distrust appear to be antecedents to perceptions of the organisation. In this model these antecedents lead to attraction which in turn leads to intention to pursue the application. One might speculate that at the application stage (stage 1 in this research) there are also perceptions of justice that matter to applicants, (for example timeliness and information sent out to applicants and other forms of communication) which may strengthen trustworthiness perceptions, and lead to the intention to continue with the application, however this was not measured at stage 1. It is also unclear from this research how much stage-based justice and trustworthiness perceptions carry-over between stages, since no data was available to test this.

Reflecting the carry-over and translation of initial trust and reputation into subsequent stages, path lines have been added to show the links between propensity to distrust and reputation (see also figure 10.2) affecting the relationships between justice and trustworthiness at stage 2. Potentially this is fertile ground for further work, as this study has identified several antecedents that should be taken into account in future studies exploring justice and trust in selection. Judging from the comments in the template analysis applicants develop their own personal reasons for pursuing a research degree, and such 'reasons' may well be prevalent throughout the recruitment and

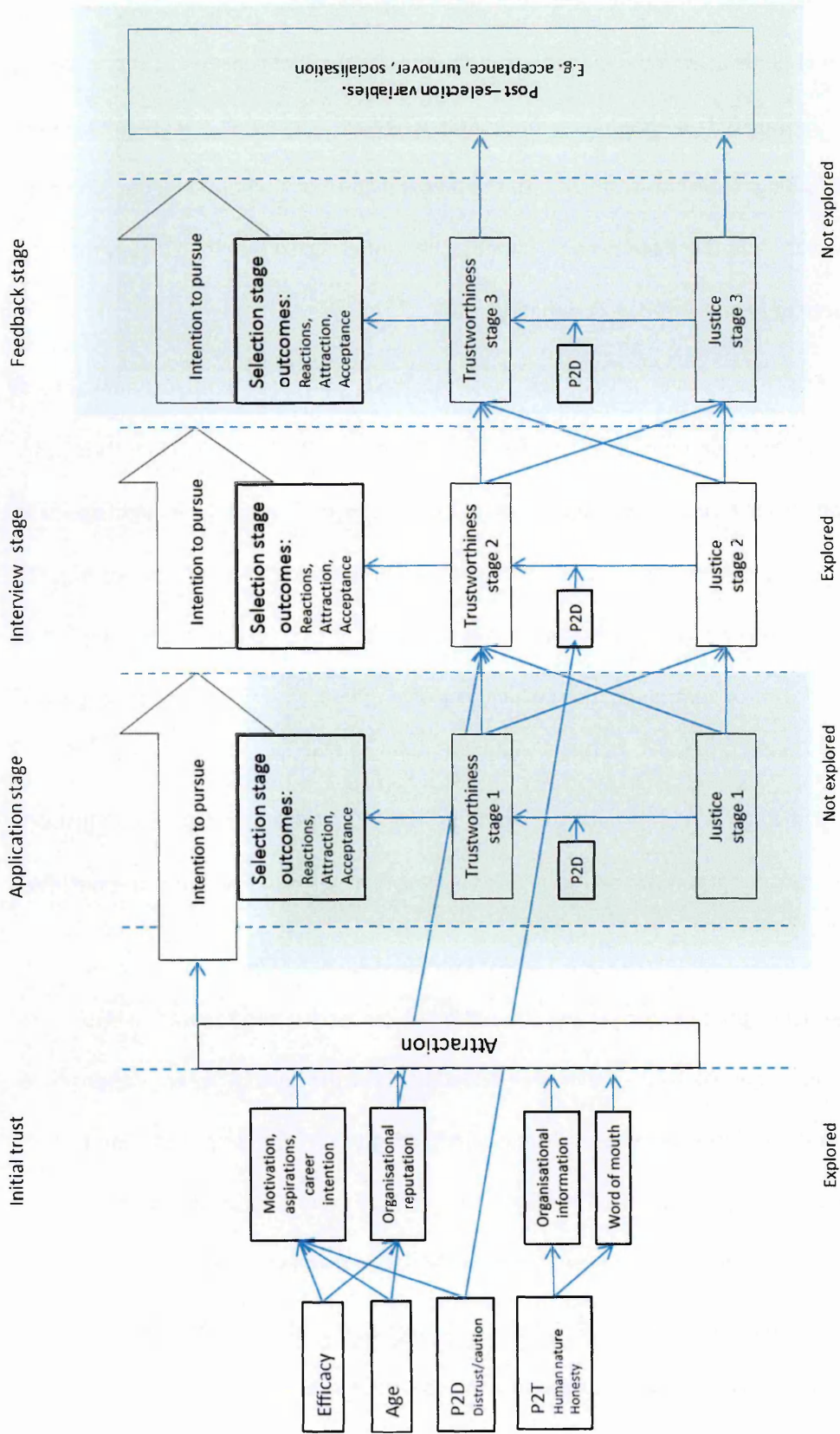


Figure 10.2 Tentative model framed within the overall conceptual model

selection process leading applicants to their evaluations of justice and organisational trustworthiness.

10.5 Recommendations

Further work is needed to explore *eight* issues raised by the current set of studies. As regards propensity to trust there are *three* recommendations for further empirical and conceptual work: First more attention should be focused on the dimensionality of this construct, and to consider ways of reconceptualising it as part of a broader band of measures of antecedent inputs for trust. Separation of domain-specific issues (e.g. specific roles and expectations found within contexts) and intrapersonal aspects (e.g. values regarding honesty and faith in human nature) if supported by the data, would be useful for understanding the role of antecedents in different contexts.

Secondly a major distinction appears to exist in *propensity to trust* and *propensity to distrust*. Further examination is required which considers the role of caution as a behavioural expression of distrust or as a generalised driver of distrust (e.g. propensity towards caution, risk avoidance). Propensity to trust originated as a personality variable and previous measures may not be adequate reflections of the underlying personality dimensions. In particular in relation to trust, a distinction between approach and avoidance may be helpful for reconceptualising propensity to trust, both at the level of general behavioural tendencies (e.g. what a person does when they approach or avoid a situation in which they could be vulnerable) and what they generally believe (e.g. reasons for why they approach or avoid a general situation). Reframing propensity to trust in terms of an approach/avoidance framework might also provide a better understanding of inputs of trust. New scales for assessing trust inputs could then be devised to reflect differences in approach/avoidance of vulnerabilities rather than referring to context or

domain dependent issues such as trust in salespeople, institutions or promising futures, and thus be better aligned with the basic trust problem of approach and avoidance during social exchange.

Thirdly as shown in chapter 7 there are some unexplained gender effects raising questions about the link between gender and propensity to trust. These should, as mentioned before, also be subjected to further investigation.

As regards recruitment and selection, there are *five* main recommendations for future research on recruitment and selection.

1. Further study is needed using different applicant groups in order to understand how widely recruitment and selection processes differ in terms of the relationships between applicants' propensity to trust/distrust, attraction and the path between justice effects and perception of organisational trust.
2. Learning from the strengths and limitations of the recruitment and selection study (chapters 7 to 9), further longitudinal designs need to be set up to allow multi-stage modelling, using the same measures at each stage when tracking a variable (e.g. organisational trustworthiness) and operationalising causal relationships by controlling when data from measures are collected. This should also allow testing of variable carry-over effects between stages.
3. Linking the work on propensity to trust with the recruitment study, careful examination of propensity-to-trust data is advisable since evidence obtained here reveals that propensity to trust and propensity to distrust

may operate independently within different stages of the recruitment and selection contexts.

4. The interplay between applicant perceptions of supervisory capabilities and future supervisory relationships is one of the emergent insights from the template study. One suggestion based on this is that future quantitative work should take into consideration separation of organisational and supervisory trust perceptions especially in situations when supervisors are key actors during the selection process. Future quantitative work may involve design of specific scales of trust in supervisors that reflects the dimensions in Nooteboom's (2002) taxonomy as well as capturing the anticipatory exchange that is the focus of applicant preview.
5. Finally, given the possibility that applicant's personal aspiration and motivation as well as personal circumstances and their self-concept play a role in their thinking throughout the recruitment and selection process, additional theoretical frameworks (e.g. reasoned/planned action perspective; Ajzen, 1985; Highhouse, Lievens & Sinar, 2003) may be useful in exploring the causal relationships between selection experiences, justice and trustworthiness perceptions, and behavioural intentions, thus helping to understand how such perceptions arise in the first place, how they are maintained and sustain applicants' intention to continue with their application.

10.6 Implications for recruitment practice

There are several practical recommendations regarding recruitment and selection that emerged during the course of this research.

One should not assume simple relationships between trust variables and selection variables. These results show that some applicants are more sensitive to messages about organisational trust whereas others appear to be less concerned with how trustworthy an organisation appears during recruitment and selection. That does not mean that trust is not important to them, but instead it suggests that the basis on which individuals become willing to accept their vulnerabilities relative to the organisation differs between individuals. Initial attraction, perception of justice and trustworthiness and levels of distrust may be more important when there are aspects that matter to applicants (such as career opportunities, meeting personal goals and aspirations etc.) that are at stake. Those who are by default more distrusting may require different demonstrations of trustworthiness than those who are less distrusting. This should alert organisations to the need to consider the different ways in which distrust can be overcome. For some individuals justice is an important signal that trust is present, and that distrust may therefore be misplaced, but for others, cues for whether or not their goals (e.g. career goals) are likely to be met may signal a basis on which to trust a recruiting organisation.

The following lists 13 recommendations for enhanced recruitment practices that arise from the work done at the Open University, although many of these suggestions are also more widely applicable:

- 1) Improve communication between the university and its applicants throughout the recruitment and selection process
- 2) Provide information to prospective research degree applicants relating to the fairness of the recruitment process. This might include information on equal opportunities and in the context of Higher Education widening participation information.

- 3) Review applicant experiences to identify and improve on practices where perceptions of unfairness can arise (for example, by not inviting those who live a long distance away to early morning interviews).
- 4) Review Research degree marketing to identify how to signal the trustworthiness of the university and student supervisors more effectively, and identify subsequent career development opportunities following completion of a PhD.
- 5) Recognise and use the power of word of mouth in recruitment, which many applicants draw on in making their decision to apply as a credible applicant information source.
- 6) Utilise social media for disseminating recruitment information to attract applicants and strengthen the influence of third-party recruitment sources.
- 7) Review procedures for management of unsuccessful candidates, as they may reapply or become sources of third-party information.
- 8) Provide tips on how to be successful at a research degree interview.
- 9) Provide applicants with information of what will be expected of them during the interview, including exposure to challenging questions, and developing their research proposals after the interview stage, prior to commencement of study.
- 10) Ensure a better synergy between the expectations of the student at the recruitment stage and their experiences of completing their research degree study. This might be done by investigating the use of contracts between the two parties.
- 11) Implement a robust process for ongoing monitoring and evaluation of the quality of the selection process, including improved central information

systems for monitoring and tracking applicants throughout the recruitment process and beyond.

12) Consider future investigation into post-selection interactions in shaping the emerging perception of the recruiter prior to commencement of the job role (e.g. in this study the role of research student).

13) Carry out a future study that analyses the relationship between recruitment & selection experience and progression and completion of a research degree. This could aid in identifying applicants less likely to complete and help develop an understanding of factors impacting on completion and provide possible ways of better supporting these applicants motivationally during their study.

10.7 Final reflections

The work reported in this thesis is a demonstration of what has been learned in the process of completing a PhD. This process has moved from an acceptance of many of the core ideas in trust research to considering challenges to these ideas. My work has a particular focus on the concept of propensity to trust and on reflection this seems ripe for reconceptualization given some of the issues identified in the thesis. Methodologically, other approaches to collecting data and answering research questions look promising and offer novel ways for engaging with the constructs and contexts brought into focus in my work. Combining both statistical and qualitative approaches offers a greater understanding of context and the way in which trust functions within it.

Where research may take me next is difficult to say. However, trends in recruitment and selection particularly in the context of online technologies suggest possible starting points for further work. There are many scenarios where trust becomes

important during recruitment and selection contexts and thus affords a rich platform for future work (breaches of trust during online recruiting, use of social media, failed expectations of job seekers and trust in anticipatory exchange) which could be explored in future. The trust and distrust dichotomy is also an area that requires further work, particularly at the level of personality and in relation to other antecedents active within different contexts for trust. The justice-trust relationship provides further leverage for looking into shared antecedent between trust and justice that may explain the observed relationships noted in previous work.

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Appendix 1 - Survey tools

Propensity to trust survey

Dear Research participant,

I am a PhD student currently working towards a PhD in the Psychology Department at the Open University. The following is a survey looking at personality and attitudes and I would like to invite you to participate in this research. Before asking you to complete the questionnaire I am going to ask a few questions about yourself including your age, gender, ethnicity and your work.

This survey forms part of the work for my PhD into applicant reactions to selection processes, and is supervised by Dr Rosalind Searle and Dr Martin Le Voi, both of whom are members of the Psychology department.

Please note, your participation is entirely voluntary and all your responses will be kept confidential. Any data you provide will only be used in a statistical analysis in a way that will not identify you individually to others. The survey tool complies with UK and EU data protection guidelines. Data collected is accessible only to the researchers and will be removed from the servers once data has been collected. Your consent will be assumed if you complete and submit your responses. Try not to leave any blanks.

Due to the purpose of the research there are 139 short questions describing various beliefs and behaviours, but you are asked to work quickly through these questions. Do not stay too long with individual questions, but simply give the first response that comes to mind. By working quickly, the survey should take you no longer than 30 minutes, and should be fairly easy to complete. Full instructions are provided.

Before you continue, please agree to the consent statement below. Otherwise close the browser window to withdraw from the study.

***Consent statement: I understand that I am free to participate in this study and have the right to withdraw at any time. I am willing to participate and give my consent to my data being used.**

- Yes, I agree
- No, I disagree

About you

The following questions ask you some for basic information about yourself.

***Your Gender**

- Male
- Female

How would you describe your ethnic background?

- Bangladeshi
- Black African
- Black Caribbean
- Chinese
- Indian
- Mixed race
- Other (please specify)
- Other Asian
- Other Black
- Pakistani
- White British
- White Irish
- Other White
- Other Ethnic Group
- White
- Black
- Asian

What nationality are you?

***What is your highest level of education?**

- GCSE second school
- A'level or equivalent (sixth form)
- NVQ 1 3
- Foundation degrees
- Bachelor's degree
- NVQ 4
- Master's degree
- Doctorate degree (Ph.D., J.D., M.D.)
- Other

***How old are you?**

- younger than 18
- between 19 25
- between 26 30
- between 31 35
- between 36 40
- between 41 45
- between 46 50
- between 51 55
- between 56 60
- between 61 65
- 66 +

Are you?

- Employed
- Unemployed
- Other (please specify)

If you are employed please give your job title in the space below
Please indicate which of the following best describes your job

- | | |
|--|---------------------------------|
| <input type="radio"/> Admin/Clerical | <input type="radio"/> Unskilled |
| <input type="radio"/> Supervisory | <input type="radio"/> Financial |
| <input type="radio"/> Managerial | <input type="radio"/> Technical |
| <input type="radio"/> Other (please specify) | <input type="radio"/> Volunteer |

Question 1 - 79: Propensity-to-trust items

SD = Strongly Disagree; D = Disagree; NAD = Neither agree nor disagree;
A = Agree; SA = Strongly Agree

***Please answer every statement, even if you are not completely sure of your response.**

1. Most students will tell their instructor when he or she has made a mistake in adding up their score, even if the instructor did give them more points than they deserved
2. If you give the average person a job to do and leave him or her to do it, the person will finish it successfully.
3. People usually tell the truth, even when they know they would be better off lying.
4. Most students do not cheat when taking exams.
5. Most people are basically honest.
6. If you act in good faith with people, almost all of them will reciprocate with fairness towards you.
7. Most people lead clean decent lives.
8. People claim they have ethical standards regarding honesty and morality, but few people stick to them when the chips are down.
9. If you want people to do a job right you should explain things to them in great detail and supervise them closely.
10. If most people could get into a movie without paying and be sure they were not seen they would do it.
11. Most people are not really honest for a desirable reason; they're afraid of getting caught.
12. Most people would tell a lie if they could gain by it.
13. Most people would cheat on the income tax if they had the chance.
14. Nowadays people commit a lot of crimes and sins that no one else ever hears about.
15. Generally speaking, I would say that people can be trusted.
16. People try to take advantage of you if they got the chance.
17. People try to be fair.
18. You can't be too careful in dealing with people.
19. People try to be helpful.
20. People are just looking out for themselves.
21. One should be very cautious with strangers.
22. These days you must be alert or someone is likely to take advantage of you.
23. Most adults are competent at their jobs.
24. Hypocrisy is on the increase in our society.
25. In dealing with strangers it is better to be cautious until they have provided evidence that they are trustworthy.

26. This country has a dark future unless we can attract better people into politics.
27. Fear and social disgrace or punishment rather than conscience prevents most people from breaking the law.
28. Using an honour system of not having a teacher present during exams would probably result in increased cheating.
29. Parents can usually be relied on to keep their promises.
30. The United Nations will never be an effective force in keeping world peace.
31. The judiciary is a place where we can all get unbiased treatment.
32. Most people would be horrified if they knew how much of what the public hears and sees is distorted.
33. It is safe to believe that in spite of what people say, most people are primarily interested in their own welfare.
34. Even though we have reports in newspapers, radio and TV, it is hard to get objective accounts of public events.
35. The future seems very promising.
36. If we really knew what was going on in international politics, the public would have reason to be more frightened than they now seem to be.
37. Most elected officials are really sincere in their campaign promises.
38. Many major national sports contests are fixed in one way or the other.
39. Most experts can be relied upon to tell the truth about the limits of their knowledge.
40. Most parents can be relied upon to carry out their threats of punishment.
41. Most people can be counted on to do what they say they will do.
42. In these competitive times one has to be alert or someone is likely to take advantage of you.
43. Most idealists are sincere and usually practice what they preach.
44. Most sales people are honest in describing products.
45. Most students in school would not cheat even they were sure of getting away with it.
46. Most repair people will not overcharge even if they think you are ignorant of their specialty.
47. A large share of accident claims filed against insurance companies are phony.
48. Most people answer public opinion polls honestly.
49. I tend to be cynical and sceptical of others' intentions.
50. I believe that most people are basically well-intentioned.
51. I believe that most people will take advantage of you if you let them.
52. I think most of the people I deal with are honest and trustworthy.
53. I'm suspicious when someone does something nice for me.
54. My first reaction is to trust people.
55. I tend to assume the best of people.
56. I have a good deal of faith in human nature.
57. Those devoted to unselfish causes are often exploited by others.
58. Some people do not cooperate because they pursue only their own shortterm self-interest. Thus, things that can be done well if people cooperate often fail because of these people.
59. Most people are basically honest.
60. It's hard to figure out who you can really trust these days.
61. There are a few people in this world you can trust, when you get right down to it.
62. Most people can be trusted.
63. Strangers can generally be trusted.
64. Most people are fair in their dealings with others.
65. Most people don't really care what happens to the next fellow.

66. Too many people in our society are just out for themselves.
67. Many people are friendly only because they want something from you.
68. When I order something I've never seen through the mail or by telephone, I am confident that the product will arrive as promised.
69. I believe that people usually keep their promises.
70. Most companies genuinely care about their customers.
71. Most salespeople are honest.
72. Most employees do not like to work and will avoid it if they can.
73. In their advertising and promotions, most businesses purposely mislead customers.
74. Despite what they may say, managers really do not care if employees lose their jobs.
75. It is best not to share concerns or complaints with co-workers because they will probably use this information to harm you.
76. I feel nervous about a business deal unless both parties sign a formal written agreement.
77. Society needs tough laws and regulations because businesses cannot otherwise be trusted to do what is good for society.
78. Employees will not work hard or do quality work unless managers closely monitor their work.
79. I am usually suspicious of people until I have had plenty of time to get to know them and know they can be trusted.

(HEXACO)

80. I would be quite bored by a visit to an art gallery.
81. I plan ahead and organize things, to avoid scrambling at the last minute.
82. I rarely hold a grudge, even against people who have badly wronged me.
83. I feel reasonably satisfied with myself overall.
84. I would feel afraid if I had to travel in bad weather conditions.
85. I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.
86. I'm interested in learning about the history and politics of other countries.
87. I often push myself very hard when trying to achieve a goal.
88. People sometimes tell me that I am too critical of others.
89. I rarely express my opinions in group meetings.
90. I sometimes can't help worrying about little things.
91. If I knew that I could never get caught, I would be willing to steal a million dollars.
92. I would enjoy creating a work of art, such as a novel, a song, or a painting.
93. When working on something, I don't pay much attention to small details.
94. People sometimes tell me that I'm too stubborn.
95. I prefer jobs that involve active social interaction to those that involve working alone.
96. When I suffer from a painful experience, I need someone to make me feel comfortable.
97. Having a lot of money is not especially important to me.
98. I think that paying attention to radical ideas is a waste of time.
99. I make decisions based on the feeling of the moment rather than on careful thought.
100. People think of me as someone who has a quick temper.
101. On most days, I feel cheerful and optimistic.
102. I feel like crying when I see other people crying.
103. I think that I am entitled to more respect than the average person is.
104. If I had the opportunity, I would like to attend a classical music concert.

105. When working, I sometimes have difficulties due to being disorganized.
106. My attitude toward people who have treated me badly is 'forgive and forget'.
107. I feel that I am an unpopular person.
108. When it comes to physical danger, I am very fearful.
109. If I want something from someone, I will laugh at that person's worst jokes.
110. I've never really enjoyed looking through an encyclopaedia.
111. I do only the minimum amount of work needed to get by.
112. I tend to be lenient in judging other people.
113. In social situations, I'm usually the one who makes the first move.
114. I worry a lot less than most people do.
115. I would never accept a bribe, even if it were very large.
116. People have often told me that I have a good imagination.
117. I always try to be accurate in my work, even at the expense of time.
118. I am usually quite flexible in my opinions when people disagree with me.
119. The first thing that I always do in a new place is to make friends.
120. I can handle difficult situations without needing emotional support from anyone else.
121. I would get a lot of pleasure from owning expensive luxury goods.
122. I like people who have unconventional views.
123. I make a lot of mistakes because I don't think before I act.
124. Most people tend to get angry more quickly than I do.
125. Most people are more upbeat and dynamic than I generally am.
126. I feel strong emotions when someone close to me is going away for a long time.
127. I want people to know that I am an important person of high status.
128. I don't think of myself as the artistic or creative type.
129. People often call me a perfectionist.
130. Even when people make a lot of mistakes, I rarely say anything negative.
131. I sometimes feel that I am a worthless person.
132. Even in an emergency I wouldn't feel like panicking.
133. I wouldn't pretend to like someone just to get that person to do favors for me.
134. I find it boring to discuss philosophy.
135. I prefer to do whatever comes to mind, rather than stick to a plan.
136. When people tell me that I'm wrong, my first reaction is to argue with them.
137. When I'm in a group of people, I'm often the one who speaks on behalf of the group.
138. I remain unemotional even in situations where most people get very sentimental.
139. I'd be tempted to use counterfeit money, if I were sure I could get away with it.

Thank you and well done.

Many thanks for your time and effort in completing the survey. I will email you with a summary of the findings when they become available.

***It is probable that we may wish to contact some participants in this study to invite them to be interviewed in the future. Are you happy for us to contact you for this purpose over the next few years?**

- Yes
- No

Additional comment

Please feel free to comment on the survey, your experience of it, or anything else you feel would be of interest to us.

If you click on the <Done> button, you will be redirected to the Open University website.
Many thanks again.

Instructions

On the following screens we will present you with a number of items describing people's behaviours and the way in which they view the world. Your task will be to read through and decide how much you agree with each of the statements. Indicate your agreement using the radio buttons (See image below).

Use the following key:

SD = Strongly Disagree

D = Disagree

NAD = Neither Agree nor Disagree

S = Agree

SA = Strongly Agree

SD	D	NAD	A	SA
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please answer every statement, even if you are not completely sure of your response. There are no right or wrong answers. If you leave out a statement you will be prompted to complete it, as otherwise your responses may not be usable in the analysis of the survey data.

Buttons for indicating agreement/disagreement

Stage 1 survey

Dear research degree applicant,

You have reached this survey by following a link from a recent email you were sent by the Open University Survey office on behalf of the research school. The University is evaluating its processes for recruiting and selecting research degree students, and we are conducting a series of surveys to help us identify how we can improve the information and services we provide to applicants in the future. We would like to find out why you want to apply for a research degree and what factors influenced your decision to apply to the Open University in particular, as well as some other factors that are relevant to studying for a research degree. This survey should take no longer than 15 -20 minutes to complete.

Your participation is entirely voluntary, and you can leave the survey at any stage by closing your browser. Your response to the survey will not affect your Open University application or your chances of being offered a place as a research student. Any data you provide will only be used in aggregate form and won't be shared in an identifiable way with the Research Degrees Office or any parties involved in recruiting, selecting or training research degree students, nor with any third parties. Aggregate data from this survey will also be used in research leading to a PhD and in subsequent academic publications.

The survey complies with British Psychological Society (BPS) ethics guidelines on the use of surveys, and has been registered and approved by the Open University Student Research Project Panel (SRPP) and Human Research Ethics Committee (HREC).

PLEASE NOTE: This is a multistage evaluation, where we are evaluating different stages of the selection process. This is the survey for STAGE 1 – The Application stage. We will therefore need to contact you again at a later date to invite you to tell us about your experience of other stages in the application process. To help us get the most from your data it is important if you decide to participate, that you take part in ALL stages of the research. We will therefore invite you to take part in subsequent stages regardless of whether you participate in stage 1, unless you tell us that you do not wish to be invited again, by emailing jet-srpp@open.ac.uk, requesting to be removed from the invitation list for this research.

If you have any queries about the survey please contact Vivien Bacigalupo, Head of Research Degrees (V.M.Bacigalupo@open.ac.uk). The PhD research associated with this evaluation is conducted by Volker Patent supervised by Dr Alison green (a.j.green@open.ac.uk) in the Faculty of Social Sciences

***1. Consent statement:** I understand that I am free to participate in this study and have the right to withdraw at any time. I am willing to participate and give my consent to my data being used.

- Yes, I agree
- No, I disagree

Before you start

Before you start, here are a few tips for completing the survey

1. Do not spend too long on individual items, but give the first response that comes to mind.
2. There are no right or wrong answers.
3. On some pages you may have to scroll the window to view the 'Next' button.
4. Please try not to leave any blanks unless otherwise instructed.
5. You can edit your responses by going back using the 'Prev' button. Once you have submitted you will not be allowed to change responses.

A few details about you and your application

Q1 Which degree/degrees did you apply for? Please, select the ONE which applies best to you.

- MRes
- PhD
- EdD
- MPhil
- Virtual MPhil

Q2 To which faculty (or faculties, if you applied to more than one) did you apply for a research degree?

- Arts
- Health & Social Care
- Business and Law
- Maths and Computing
- Social Science
- Knowledge Media Institute
- Education
- Science

Q3 Please indicate which of the following best describes your current employment status

- Employed
- Selfemployed
- Unemployed
- On long term sick leave
- In Fulltime Education
- House husband/Housewife
- Retired
- Other (please specify)

Q4 If you are employed please enter your job title in the space below

Q5 Are you currently responsible for the care of children of school age or younger?

- Yes
- No

Q6 Please indicate the topic of your intended study in the space provided below. If you don't know please state 'unknown'.

Q7 What is your preferred study mode (parttime/fulltime)?

- Parttime only
- Fulltime only
- No preference, would consider both options

Q8 Have you studied at the Open University before?

- YES
- NO

Q9 If you answered YES to the previous question briefly provide details of previous study.

- Studied individual courses but did not complete a qualification at the Open University
- Completed a Masters degree at the Open University
- Completed other qualification at the Open University
- Completed undergraduate degree at the Open University
- Other (please specify)

Q10 What is your highest level of qualification?

- Undergraduate level degree(BA/BSc)
- Masters level degree
- MPhil
- Postgraduate diploma
- PhD or other doctoral qualification
- Other (please specify)

Q11 What attracted you to study for a research degree (PhD, MRES or other) in the first place? Please give more than one reason if applicable.

Q12 What attracted you in particular to apply for this research degree (PhD, MRES or other) at the Open University? Please give more than one reason if applicable.

Q13 What influenced your application? Rate the importance of each of the following in your decision to apply for a research degree (PhD, MRES or other), at the Open University

Unimportant (1) Important to a small degree (2) Moderately important (3) Important (4) Very important (5)

1. The reputation of the Open University
2. Knowledge of the work of potential supervisors at the Open University
3. Information provided by the Open University
4. Information provided by others (careers fairs, university fairs, career advisor)
5. Recommendation from peers (work colleagues, former university peers)
6. Recommendation from former tutors, lecturers or other academics
7. Personal previous experiences of the Open University
8. Others who are studying for a research degree at the OU
9. Others who are studying for a research degree but not at the OU
10. Close family and friends
11. Employer support my interest in a research degree
12. I need this research degree to progress in my career
13. Other (please specify)

A little about your current work situation

Q14 Briefly tell us about your current work situation if this had any influence on your decision to pursue a PhD. Please comment on your desire to stay with or leave your employer or career and anything else that you see as relevant to your desire to register for a PhD

A few more details about your application

Q15 If you used any Open University published information, in helping you decide to apply to the Open University, what was this?

- Open University Prospectus
- Research School Website
- Academic Department Website
- Supervisor's website, or blog
- Other (please specify)

Q16 How useful was Information provided/published by the Open University

- Not at all useful
- Of Little Use
- Useful
- Very useful

Q17 Did you contact potential supervisors prior to submitting your application?

- Yes
- No

Q18 Did you contact anyone else at the Open University prior to submitting your application?

- Yes
- No

Q19 If so who did you contact and for what reason?

Q20 Have you recently applied for a research degree in the same area of study at another institution?

- Yes
- No

Q21 If you answered YES to the previous question, where else did you apply for a research degree and how long ago was this?

About your perception of research

Q 22 Please rank the following four statements according to how you personally view YOUR REASONS FOR DOING RESEARCH at this stage. Indicate Rank 1 to the most important, Rank 2 to the next most important reason, etc. If you feel an item does not apply, please leave it blank.

MY MAIN REASON FOR DOING RESEARCH IS...

Rank 1 Rank 2 Rank 3 Rank 4

- ... to fulfil the requirements for a doctorate
- ... to obtain qualifications and gain accomplishments
- ... to investigate something that is personally meaningful and interesting.
- ... to make a contribution to society.

Q23 Please rank the following four statements according to how you personally view THE GOALS FOR A RESEARCH DEGREE. Indicate Rank 1 to the most important, Rank 2 to the next most important reason, etc. If you feel an item does not apply, please leave it blank.

THE GOAL OF A RESEARCH DEGREE IS TO...

Rank 1 Rank 2 Rank 3 Rank 4

- ... achieve something concrete for example, a book or an article.
- ... earn a one's own place in the academic or professional community.
- ... further one's own understanding and expertise.
- ... strive for something that is valuable to the discipline or society.

Q24 Please rank the following four statements according to how you personally view HOW THE GOALS OF RESEARCH ARE ACHIEVED. Indicate Rank 1 to the most important, Rank 2 to the next most important reason, etc. If you feel an item does not apply, please leave it blank.

THE GOAL OF RESEARCH IS ACHIEVED BY...

Rank 1 Rank 2 Rank 3 Rank 4

- ... recognizing, posing and answering unique questions.
- ... finding something that is not yet known.
- ... finding and studying things that are personally interesting.
- ... studying things that are important for the discipline.

A little more about yourself

Q25 How confident do you feel at this stage....

I am not at all confident (1) I have little confidence (2) I have some confidence (3) I am very confident (4) I am completely confident (5)

1. ... in generally being able to complete a research degree?
2. ... in your skills and abilities to complete a research degree?
3. ... in your support network helping you progress through your research degree?
4. ... in your ability to manage a research degree financially?

Q26 Here are a number of personality traits that may or may not apply to you. Please indicate the extent to which you agree or disagree with that statement by selecting the most appropriate response You should rate the extent to which each pair of traits applies to you, even if one characteristic applies more strongly than the other.

Completely disagree (1) Mostly disagree (2) Slightly disagree (3) Neither agree nor disagree (4) Slightly agree (5) Mostly agree (6) Completely agree (7)

1. Calm, emotionally stable.
2. Dependable, selfdisciplined
3. Open to new experiences, complex.
4. Sympathetic, warm.
5. Critical, quarrelsome.
6. Extraverted, enthusiastic.
7. Reserved, quiet.
8. Disorganized, careless.
9. Anxious easily upset.
10. Conventional, uncreative.

Please indicate your agreement with the following statements:

Completely disagree (1) Mostly disagree (2) Slightly disagree (3) Neither agree nor disagree (4) Slightly agree (5) Mostly agree (6) Completely agree (7)

1. I tend to assume the best of people.
2. I tend to be cynical and sceptical of others' intentions.
3. I have a good deal of faith in human nature.
4. My first reaction is to trust people.
5. I believe that most people will take advantage of you if you let them.
6. I'm suspicious when someone does something nice for me.
7. I believe that most people are basically wellintentioned.
8. I think most of the people I deal with are honest and trustworthy.

Thank you

Many thanks for your participation. Your contribution should enable the Open University to complete this evaluation of its recruitment and selection process and should help better understand the needs of applicants for a place on an Open University research degree.

When you are happy with your responses, please click on the 'Finish' button below. If you would like to withdraw from the research after submitting your responses, please email the survey office: iet-srpp@open.ac.uk before the survey closes on <INSERT date>. If you would like to leave any comments about the survey before finishing please use the space below.

Stage 2 survey

Welcome to the Open University Research Degree recruitment evaluation

You recently attended an interview for a Research degree at the Open University, and have reached this survey through following a link from a recent email you were sent inviting you to participate in Stage Two of the evaluation. Thank you for your time with this survey. We hope you have already taken part in Stage One, but if you have not, you can still take part in Stage Two as your data will still be useful for this evaluation. Due to the multistage nature of this research we will need to contact you at a later date to invite you to further stages. If you do not wish to be invited please email IET-Surveys@open.ac.uk, requesting to be removed from the invitation list for this research.

If you have any queries about the survey please contact Joanna Farmer, Senior Manager of Research Degrees (Joanna.Farmer@open.ac.uk).

If you encounter any problems completing the questionnaire online and require assistance, please do not hesitate to email: IET-Surveys@open.ac.uk.

Before you start, here are a few tips for completing the survey:

1. Do not spend too long on individual items, but give the first response that comes to mind.
2. There are no right or wrong answers.
3. On some pages you may have to scroll the window to view the 'Next >' button.
4. Please try not to leave any blanks unless otherwise instructed.
5. You can edit your responses by going back using the 'The next page will take you to a consent statement which you must agree to in order to proceed with the survey.'

Again, thank you for your time, and good luck with your application.

With best wishes,

Joanna Farmer and Volker Patent

Data Protection Information

The data you provide will be used for research and quality improvement purposes and the raw data will be seen and processed only by The Open University staff and its agents. This project is administered under the OU's general data protection policy guidelines.

consent - Consent statement:

I understand that I am free to participate in this study and have the right to withdraw at any time. I am willing to participate and give my consent to my data being used.

- Yes, I agree
 No, I disagree

About your experience of interview and selection

q1 - Please indicate your agreement or disagreement with the following items describing your experience of the interview and your perceptions of the recruitment process.

(Please select one for each row)

| Strongly disagree (1) | Disagree (2) | Undecided (3) | Agree (4) | Strongly agree (5) |

1. I understood in advance what the process for selecting applicants for a place would be like
2. I knew what to expect from attending the selection process
3. I could really show my skills and abilities through this selection process
4. This selection process gave me the opportunity to show what I can really do
5. I knew when I would receive feedback about my performance in the selection process
6. The selection process was administered to all applicants in the same way
7. There was no difference in how the selection process was administered to different applicants
8. I was treated honestly and openly during the interview
9. I felt the interview process was conducted transparently
10. I was treated politely PRIOR TO the interview process
11. I was treated politely DURING the interview process
12. I was satisfied with my treatment PRIOR TO the interview
13. I was satisfied with my treatment DURING the interview
14. There was enough communication PRIOR TO the selection process
15. There was enough communication DURING the selection process
16. I was able to ask questions about the selection process
17. It would be clear to anyone that this selection process related to a research degree
18. The selection process was highly relevant to recruitment of research degree applicants

q2 - Which of the following selection tools were used during the interview/selection process?

(Please select all that apply)

- Some form of written exercise
- A panel interview
- 1:1 interview
- Ability of language test
- Other - please specify: _____ [Other]

More about your experience of the interview/selection process

q3 - What is your overall impression of the interview/selection process?

q4 - Were there any things in this process that were particularly useful for you, in terms of enhancing your view of what you would be doing, your choice of institution, or any other aspects of your decision to pursue a research degree?

q5 - Were there any things that were unhelpful to you in any way? Please describe these in the space below.

q6 - Were there any questions that you wish you were asked but weren't? If so, what were they?

q7 - Were there any questions you wished YOU had asked but didn't? If so, what were they, and what prevented you from asking them?

q8 - Have you been given any indication of the outcome of the interview as yet, whether formal or informal, following your interview?

- No information about a decision was provided during or since the interview. I don't know the outcome yet.
- Informally, YES, I have been given a decision
- Formally, YES, I have been given a decision
- I have been given a decision both informally and formally

More about your perception of the University and study for a research degree
q9 - Please indicate your agreement or disagreement with the following statements about the Open University as an organisation.

| Strongly disagree(1) | Disagree(2) | Undecided(3) | Agree(4) | Strongly agree(5) |

1. This organisation does not exploit external stakeholders
2. This organisation would never deliberately take advantage of students
3. This organisation is capable of meeting its responsibilities
4. This organisation will go out of its way to help students
5. This organisation is known to be successful at what it tries to do
6. Students' needs and desires are important to this organisation
7. This organisation is guided by sound moral principles and codes of conduct
8. This organisation is concerned about the welfare of its students
9. Power is not abused in this organisation
10. This organisation does things competently

q10 - How confident do you feel at this stage...

I am not at all confident (1)	I have little confidence (2)	I have some confidence (3)	I am very confident (4)	I am completely confident (5)
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1. ...in generally being able to complete a research degree?
2. ...in your skills and abilities to complete a research degree?
3. ...in your support network helping you progress through your research degree?
4. ...in your ability to manage a research degree financially?

Following your interview

q11 - Following your experience of the interview how likely are you to do each of the following?

(Please select one for each row)

Very probably not	Probably not	Possibly/Probably	Very probably	Definitely
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1. Recommend the Open University to others as a place of study
2. Recommend the Open University to others as a place for doing a research degree
3. Pursue a research degree at the university (if offered a place)
4. Consider working for the Open University in the future (if an opportunity arose)

q12 - If you were offered a place, would you take it up?

- Yes
 No

q13 - What specifically made you decide your answer to the previous question?

Thank you

Many thanks for your participation. Your contribution should enable the Open University to complete this evaluation of its recruitment and selection process and should help better understand the needs of applicants for a place on an Open University degree.

q14 - If you would like to leave any comments about the survey before finishing please use the space below.

Complete – Your responses have now been recorded.

If you would like to withdraw from the research after submitting your responses, please email the Survey Office: IET-Surveys@open.ac.uk before the survey closes on 19th July.

You will now be redirected to The Open University's website.

Appendix 2 - additional tables

Pattern matrix and factor correlation matrix for the three factor model

Pattern Matrix^{a,b}

	Factor		
	1	2	3
-ve:Q49_p2t_N_NEORec: I tend to be cynical and sceptical of others' intentions.	.725		
-ve:Q21_p2t_N_MayRec: One should be very cautious with strangers.	.628		
-ve:Q53_p2t_N_NEORec: I'm suspicious when someone does something nice for me.	.608		
-ve:Q51_p2t_N_NEORec: I believe that most people will take advantage of you if you let them.	.588		
-ve:Q67_p2t_N_GTARec: Many people are friendly only because they want something from you.	.565		
-ve:Q22_p2t_N_MayRec: These days you must be alert or someone is likely to take advantage of you.	.551		.325
-ve:Q66_p2t_N_GTARec: Too many people in our society are just out for themselves.	.538		
+ve:Q55_p2t_P_NEO: I tend to assume the best of people.	.486	.422	
-ve:Q75_p2t_N_P2DRec: It is best not to share concerns or complaints with coworkers because they will probably use this information to harm you.	.483		.326
-ve:Q24_p2t_N_ITSRec: Hypocrisy is on the increase in our society.	.480		
-ve:Q16_p2t_N_STSRec: People try to take advantage of you if they got the chance.	.464		
-ve:Q42_p2t_N_ITSRec: In these competitive times one has to be alert or someone is likely to take advantage of you.	.460		.386
-ve:Q26_p2t_N_ITSRec: This country has a dark future unless we can attract better people into politics.	.457		
-ve:Q58_p2t_N_GLTRec: Some people do not cooperate because they pursue only their own short-term self-interest. Thus, things that can be done well if people cooperate often fail because of these people.	.450		
-ve:Q65_p2t_N_GTARec: Most people don't really care what happens to the next fellow.	.426		
-ve:Q20_p2t_N_STSRec: People are just looking out for themselves.	.425		
-ve:Q74_p2t_N_P2DRec: Despite what they may say, managers really do not care if employees lose their jobs.	.410		
-ve:Q18_p2t_N_STSRec: You can't be too careful in dealing with people.	.400		
+ve:Q37_p2t_P ITS: Most elected officials are really sincere in their campaign promises.			
+ve:Q5_p2t_P_PHN: Most people are basically honest.		.769	
+ve:Q64_p2t_P_GTA: Most people are fair in their dealings with others.		.680	
+ve:Q6_p2t_P_PHN: If you act in good faith with people, almost all of them will reciprocate with fairness towards you.		.666	
+ve:Q17_p2t_P_STS: People try to be fair.		.641	
+ve:Q23_p2t_P_May: Most adults are competent at their jobs.		.628	
+ve:Q69_p2t_P_P2T: I believe that people usually keep their promises.		.617	
+ve:Q41_p2t_P ITS_Maj: Most people can be counted on to do what they say they will do.		.617	
+ve:Q4_p2t_P_PHN: Most students do not cheat when taking exams.		.609	
+ve:Q50_p2t_P_NEO: I believe that most people are basically well-intentioned.	.399	.591	
+ve:Q7_p2t_P_PHN: Most people lead clean decent lives.		.563	
+ve:Q19_p2t_P_STS: People try to be helpful.		.562	
+ve:Q52_p2t_P_NEO: I think most of the people I deal with are honest and trustworthy.	.358	.559	
+ve:Q56_p2t_P_NEO: I have a good deal of faith in human nature.	.472	.530	
+ve:Q70_p2t_P_P2T: Most companies genuinely care about their customers.		.451	
+ve:Q29_p2t_P ITS: Parents can usually be relied on to keep their promises.		.410	
+ve:Q2_p2t_P_PHN: If you give the average person a job to do and leave him or her to do it, the person will finish it successfully.		.392	
+ve:Q3_p2t_P_PHN: People usually tell the truth, even when they know they would be better off lying.		.364	
-ve:Q8_p2t_N_PHNRec: People claim they have ethical standards regarding honesty and morality, but few people stick to them when the chips are down.		.320	
+ve:Q39_p2t_P ITS_Maj: Most experts can be relied upon to tell the truth about the limits of their knowledge.			
-ve:Q78_p2t_N_P2DRec: Employees will not work hard or do quality work unless managers closely monitor their work.			
+ve:Q40_p2t_P ITS: Most parents can be relied upon to carry out their threats of punishment.			
+ve:Q48_p2t_P ITS_Maj: Most people answer public opinion polls honestly.			
+ve:Q68_p2t_P_P2T: When I order something I've never seen through the mail or by telephone, I am confident that the product will arrive as promised.			
+ve:Q43_p2t_P ITS: Most idealists are sincere and usually practice what they preach.			
+ve:Q44_p2t_P ITS_Maj: Most sales people are honest in describing products.			
+ve:Q31_p2t_P ITS: The judiciary is a place where we can all get unbiased treatment.			
-ve:Q13_p2t_N_PHNRec: Most people would cheat on the income tax if they had the chance.			.650
-ve:Q34_p2t_N_ITSRec: Even though we have reports in newspapers, radio and TV, it is hard to get objective accounts of public events.			.490
-ve:Q10_p2t_N_PHNRec: If most people could get into a movie without paying and be sure they were not seen they would do it.			.481
+ve:Q45_p2t_P ITS: Most students in school would not cheat even they were sure of getting away with it.			.459
-ve:Q76_p2t_N_P2DRec: I feel nervous about a business deal unless both parties sign a formal written			.438

agreement.			
-ve:Q33_p2t_N_ITSTRec: It is safe to believe that in spite of what people say, most people are primarily interested in their own welfare.			.420
-ve:Q28_p2t_P_ITST: Using an honour system of not having a teacher present during exams would probably result in increased cheating.			.412
-ve:Q32_p2t_N_ITSTRec: Most people would be horrified if they knew how much of what the public hears and sees is distorted.			.406
-ve:Q27_p2t_N_ITSTRec: Fear and social disgrace or punishment rather than conscience prevents most people from breaking the law.			.403
-ve:Q11_p2t_N_PHNRec: Most people are not really honest for a desirable reason; they're afraid of getting caught.	.352		.392
-ve:Q14_p2t_N_PHNRec: Nowadays people commit a lot of crimes and sins that no one else ever hears about.			.390
-ve:Q57_p2t_N_GLTRec: Those devoted to unselfish causes are often exploited by others.			.387
-ve:Q12_p2t_N_PHNRec: Most people would tell a lie if they could gain by it.			.378
+ve:Q46_p2t_P_ITST_Maj: Most repair people will not overcharge even if they think you are ignorant of their specialty.			.352
-ve:Q36_p2t_N_ITSTRec: If we really knew what was going on in international politics, the public would have reason to be more frightened than they now seem to be.			.323
-ve:Q47_p2t_N_ITSTRec: A large share of accident claims filed against insurance companies are phony.			
-ve:Q73_p2t_N_P2DRec: In their advertising and promotions, most businesses purposely mislead customers.			
-ve:Q72_p2t_N_P2DRec: Most employees do not like to work and will avoid it if they can.			
-ve:Q38_p2t_N_ITSTRec: Many major national sports contests are fixed in one way or the other.			
-ve:Q9_p2t_N_PHNRec: If you want people to do a job right you should explain things to them in great detail and supervise them closely.			
-ve:Q30_p2t_N_ITSTRec: The United Nations will never be an effective force in keeping world peace.			
+ve:Q35_p2t_P_ITST: The future seems very promising.			
+ve:Q1_p2t_P_PHN: Most students will tell their instructor when he or she has made a mistake in adding up their score, even if the instructor did give them more points than they deserved.			

Extraction Method: Principal Axis Factoring.
 Rotation Method: Oblimin with Kaiser Normalization.
 a. Rotation converged in 24 iterations.

b. Only cases for which randomer<0 (FILTER) = Selected are used in the analysis phase.

Factor Correlation Matrix^a

Factor	1	2	3
1	1.000	.358	.417
2	.358	1.000	.361
3	.417	.361	1.000

Extraction Method: Principal Axis Factoring.
 Rotation Method: Oblimin with Kaiser Normalization.
 a. Only cases for which randomer<0 (FILTER) = Selected are used in the analysis phase.

Post hoc regression of propensity-to-trust scales onto HEXACO factors

<i>Scale</i>	<i>R²</i>	<i>Predictors</i>	<i>BETA</i>
Philosophies of Nature	.122**	Agreeableness	.20 **
		Emotional stability	-.11 *
		Honesty	.22 **
Social Trust scale	.146**	Agreeableness	.25 **
		Conscientiousness	-.11 *
		Extraversion	.14 *
Mayer & Schoorman	.154**	Honesty	.16 **
		Agreeableness	.14 **
		Conscientiousness	-.19 **
ITS Rotter	.092**	Emotional stability	-.10 *
		Extraversion	.17 **
		Honesty	.25 **
NEO	.260**	Agreeableness	.30 **
		Agreeableness	.37 **
		Conscientiousness	-.16 **
General level of trust	.037*	Extraversion	.23 **
		Honesty	.11 **
		Agreeableness	.17 **
General trust assessment	.155**	Conscientiousness	-.12 *
		Agreeableness	.25 **
		Extraversion	.14 **
Propensity to trust	.074**	Honesty	.14 *
		Emotional	-.10 *
		Agreeableness	.21 **
Propensity to distrust ^a	.121**	Extraversion	.13 *
		Agreeableness	.17 **
		Emotional stability	-.16 **
		Extraversion	.15 **
		Honesty	.13 *

*=p<0.05;**=p<0.01; a= reverse scored scale

Appendix 3 - Template analysis

Instructions for all codebooks

The following text was used for instructions: The questions for each template as well as the example were changed in accordance with the template. Questions were provided on each instruction sheet separately

You will be given a list of quotes/responses from a survey, of applicants for a PhD studentship or other post graduate study (MRes). Your task will be to help categorise the quotes using a coding frame that was constructed by the researcher on the basis of prior theory and understanding of the application process and scrutiny of the individual responses.

The questions participants answered in the survey were:

What attracted you to study for a research degree?	Q9 stage 1A
What attracted you in particular to apply for this research degree at the Open University?	Q10 stage 1A
Briefly tell us about your current work situation if this influenced your decision to apply?	Q12 stage 1B
What is your <u>overall</u> impression of the interview/selection process?	Q3 stage 2A
Were there any things in this process that were particularly supportive? (positive)	Q4 stage 2B
Were there any things that were unhelpful to you in any way? (negative)	Q5 stage 2B

Read through each of the quotes and decide which of the codes from the code book are the most appropriate for each statement. If the quote is negative use a minus symbol to indicate the polarity.

For example if a quote you read is represented by the code for 'qualifications as instrumental to career' (example applies to codebook stage 1 A), but is a negative example use the abbreviation A2a-.

Use the word commenting tool (balloons) to mark text which represents the code, and enter the code into the comments balloon

Before you start, please familiarise yourself with the codebook, by reading the list of codes and the associated descriptions before proceeding.

Codebook Stage 1 - A

Attraction to research degree and organisation

CODES Q9 & 10 stage 1 Prefix A

Q9 : What attracted you to study for a research degree

Q10 : What attracted you in particular to apply for this research degree at the Open university

Detailed template	Higher order template
1. non-specific	NON-SPECIFIC
2. qualification focus	QUALIFICATION FOCUS
a. qualifications as instrumental to career	This theme reflects concerns and mention of qualifications and their utility for goals (career and personal) as well as the intrinsic and extrinsic value of qualifications
b. their lack of qualification	
c. value of qualifications	
d. existing qualifications	
3. opportunities & expectations	OPPORTUNITY
a. non specific	This reflects attraction to apply as a result of perceiving opportunities related to the presence of internal personal attributes, logistics, availability of external supports, as well as other enabling features of the organisation to which they are applying
b. distance/online learning	
c. availability of funding supervisors/topics/research groups	
d. eligibility	
e. feasibility (e.g. Cost & time)	
f. flexibility/convenience (part-time, earn while learn)	
g. structure of programme (modules, modular)	
h. access to expertise	
i. contact with other like-minded individuals (e.g. students)	
j. location, language	
4. organisation focus	ORGANISATION FOCUS
a. reputation, prestige and standards/quality	This theme reflects a focus on the organisation, its reputation, its culture, what it stands for and its status.
b. Information sources about organisation, media, web, prospectus etc.	
c. contrast with other institutions	
d. accreditation/affiliation	
e. budget/funding/resources/services6a	
f. Confidence in organisation	
g. expertise	
h. contact with supervisors academics	
5. Previous personal experience of study at this or similar organisation or similar project (OU & non OU)	PERSONAL EXPERIENCE
a. Previous study	This theme refers to personal experience of the Open University or other organisations
b. Guidance/Support/disability	
c. Professionalism	

d. Current & previous employee	
e. Similar research project some experience with research area	
f. Life experience	
6. Academic focus	ACADEMIC FOCUS
a. focus research, importance of knowledge production, reference to specific fields of research or topics.	Refers to comments about research (contributing to research, knowledge etc.) and/or learning and study) being the attractors. Here the focus can be quite specific, as in naming a subject or area they are interested in as well as more general meta-level interests
b. focus on studying and learning	
c. academic progression	
7. Career focus	CAREER FOCUS
a. career development & plans; advancement, progression & employability	This theme reflects a focus with careers, getting one, getting on in one, advancing progressing, for which the research degree is seen as a stepping stone to achieve these goals.
b. organisational links	
c. relevance to existing work or in general to areas of practice	
d. enhance skills and competence, professionalism	
e. independence	
8. identity - who they are	SELF CONCEPT FOCUS
a. life journey, integral part of journey/change	This theme refers to aspects of identity, self-concept, relating to who they are as persons with aspirations, values and personal experiences.
b. fit with life style	
c. fascination, aspiration, passion, challenge, achievement, ambition	
d. self-improvement/ self-development	
e. values & personality	
f. fit with intellectual interests	
g. status and self-presentation	
h. learning & development of knowledge	
9. third-party influence (OU)	Third party focus/word of mouth
a. previous academics	Referring to the presence of third parties who could be said to be providing word of mouth information about the organisation that makes the research degree at the organisation more desirable.
b. OU academics	
c. Non-OU academics	
d. Friend, peer, colleague	
e. current & former students	
f. employer	
g. sibling/partner	
h. encouragement by internal member of staff	

Codebook Stage 1 - B

The influence of work on applying for a research degree

CODES Q12 stage 1 Prefix B

Q12. Briefly tell us about your current work situation if this influenced your decision to apply.

1. Work influence reported	WORK INFLUENCE
a. Career development, progression	Career development
i. Academic, research, teaching	Relates to the perception of a research degree as relevant to career development
ii. Training – not used	
iii. Other Professional	
iv. Overcome work limitations	
v. Career requirement	
vi. Responsible positions	
I. Already added responsibility at work	
II. Seek responsibility	
vii. Job prospects	
viii. Intention to stay	
b. Work characteristics:	WORK characteristic
i. Boredom	Relating to characteristics of the job they are currently doing or the job they may be aspiring to.
ii. Reward and incentives	
iii. limitations	
iv. Working pattern	
I. Flexibility	
II. Mobility (positive and negative)	
III. Security,	
IV. Stability	
v. Names the title of the job	
c. Relationship between work and PhD proposal	
i. Experience informs topic	Reflects a perceived relevance between what they do at work and their research degree.
ii. Supported by employer	
iii. Direct application of PhD to work	Mentions employment status other than employed
iv. Skills for work	
v. PhD extends work	
vi. Reflection on practice	
vii. Funding and support from employer	
viii. Available Work contacts	
ix. Unemployed, retired	
2. No work influence reported	No Work Influence reported
a. Focus on own interests outside of work	Other influences that are non-work based.
b. Work unrelated to PhD	
c. Distance learning presents no barrier	
d. Not important	
e. Academic progression	
f. Personal interest	

Codebook Stage 2 - A

Overall impression of the interview/selection process

CODES Q3 stage 2 Prefix A.

q3 : What is your overall impression of the interview/selection

1. Single word answer	Single word answer	
2. Communication with organisation	Communication with organisation	
a. Friendliness of interviews/Sociable/supportive	Codes in this section represent mention of communication with the organisations its members and the way in which candidates experienced this contact	
b. Meeting and contact with others, Candidates, panel members, supervisors		
c. Communication from organisation to candidate		
d. Technology/medium (e.g. telephone, email, face-to-face)		
e. Communication of outcomes & receiving feedback		
i. Prompt		
ii. Proposal		
iii. Interview		
3. Aspects/characteristics of the selection process		Aspects/characteristics of the selection process
a. Organisation/Administration		Codes in this category refer to specific mentions of reactions and impressions about aspects of the selection process. This could refer to the application stage, sending in application forms, writing proposals, sending proposals, interviews (face-to-face or telephone) or any other methods used to gather information about applicants and assess their suitability for a PhD place.
b. Standard of professionalism		
c. Clarity		
d. Transparency, Openness		
e. Fairness, Honesty		
f. Rigour		
g. Duration/speed		
h. Formality		
i. Helpfulness/usefulness		
j. Tasks during Application stages (interview, application/proposal)		
i. Difficult or challenging questions		
ii. Surprising questions		
iii. Purpose of tasks/process		
k. Preference for selection techniques		
l. Candidates own Expectations met/unmet		
m. Organisation managing Expectations (clear)		
n. Opportunity to perform/show competences		
o. Frightening, anxiety inducing		

4. Topic conversations and discussions	Topic conversations and discussions
a. With other academics	Codes in this section refer to conversation and discussions applicants had specifically about their proposal, whereby their proposal is under scrutiny or something that is in development
b. Within scientific context	
5. Organisational	Organisational
a. Perception of organisational situation/focus	This refers to mentions of the perception of the organisation, its capability in supporting students through a studentship, offering the range of areas in which PhD supervision is available.
b. Closure of options	

Codebook Stage 2 - B

Supports and obstacles

CODEBOOK Q4 & 5 stage 2 Prefix B.

0. Single answer general	No information given
1. Encouragement to continue	Encouragement to continue
a. Interest in proposal	Codes in this section refer to cues, prompts and other encouragement to continue with the application process. These elements support continuance
b. Affirmation of earlier decision	
c. Reduce anxiety/uncertainty	
d. Supervision	
e. More than 1 attempt	
f. Fit between OU and proposal	
2. Direct Contact with the institution	Direct Contact with the institution
a. Face-to-face or mediated by technology (e.g. phone, Skype etc.)	Codes in this section refer to encounters with the organisation and its representatives including staff involved with supervision. Responses here may refer to either supportive or unsupportive aspects of being in direct contact with the organisation
b. Visit facilities	
c. Visit laboratory	
d. Contact with Supervisors	
i. Awareness of Staff specialisms and expertise	
ii. Meet/contact/explore supervisors and supervision	
1. Actual/desired	
2. Potential/prospective	
e. Talk to existing research students	
f. Website and other public information	
3. Aspects of selection process	Aspects of selection process
a. Adequacy of information (timing, process, what to expect etc)	Codes in this area refer to supportive or unsupportive elements of the selection process. This overlaps thematically with q3 template above. The emphasis here is on the helpfulness of the process.
b. Access to people	
c. Why Questions were asked	
d. Clarity/relevance of questions	
e. Conduct of selection method.	
f. Staff engagement	
g. Opportunity to perform	
h. expectations	
i. selection/interview organisation and logistics	
j. fairness	
4. Feedback & guidance	Feedback & guidance
a. On selection process at each stage	Here applicants talked about the helpfulness of the feedback at all stages of the process (e.g. pre interview, post interview), helping the candidate to prepare, and manage the selection process.
i. Application confirmed	
ii. Questions to be asked	
iii. Number of places	

b. On selection outcome(s) during application or interview	
i. The actual outcome	
ii. How they obtained the information	
1. At interview	
2. Via phoning in	
3. Letter.	
4. Still waiting	
c. As related to proposal (improve proposal)	
i. funding	
ii. development	
d. Constructive/positive	
e. Feedback from applicant to institution	
f. Feedback from organisation to applicant	
g. Amount and quality of feedback	
5. Preparation and preview	Preparation and preview
a. Tightening/developing /improving proposal/research question	Responses in this category talk about preparing for the PhD and/or previewing the work involved. They may also implicitly talk about activities that could be seen as preparatory or clarificatory. Statements may express a clear view on how helpful they found the selection process and encounters with others in terms of preparing for a research degree.
b. Explaining/elaborating/discussing project	
c. Target funding	
d. Research modules	
e. Clarification and confirmation of	
i. Work role	
ii. Patterns of work	
iii. Aspects of PhD process	
1. Previews of year	
2. Stages of the research degree	
3. support	
iv. Expectations of students	
v. Clarifying aspects of research process	
1. Direction	
2. Expectations	
3. Research question	
vi. Facilities	
vii. organisation	
viii. Progression requirements	
6. Comparison with other institutions	Comparison with other institutions
	This refers to comparisons with other institutions